

Triennial Performance Audit

of the

Solano County Transit (SolTrans)

Fiscal Years 2014/15, 2015/16 and 2016/17

FINAL AUDIT REPORT

prepared for the



**METROPOLITAN
TRANSPORTATION
COMMISSION**

by



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NOTE:

All exhibits in this report are presented at the end of the associated discussion in each section.

EXECUTIVE SUMMARY

This executive summary highlights the findings from the performance audit of the Solano County Transit (SolTrans). In California, a performance audit must be conducted every three years of any transit operator receiving Transportation Development Act (TDA) Article 4 funds, to determine whether the operator is in compliance with certain statutory and regulatory requirements, and to assess the efficiency and effectiveness of the operator's services. The two service modes operated by SolTrans, bus and paratransit, are the focus of this performance audit. The audit period is Fiscal Years 2015 through 2017 (from July 1, 2014 through June 30, 2017).

Performance Audit and Report Organization

The performance audit was conducted for MTC in accordance with its established procedures for performance audits. The final audit report consists of these sections:

- An assessment of data collection and reporting procedures;
- A review of performance trends in TDA-mandated indicators and component costs;
- A review of compliance with selected PUC requirements;
- An evaluation of SolTrans' actions to implement the recommendations from the last performance audit;
- An evaluation of functional performance indicator trends; and
- Findings, conclusions, and recommendations to further improve SolTrans' performance based on the results of the previous sections.

Comments received from SolTrans and MTC staff regarding the draft report have been incorporated into this final report. Highlights from the key activities are presented in this executive summary.

Results and Conclusions

Review of TDA Data Collection and Reporting Methods - The purpose of this review is to determine if SolTrans is in compliance with the TDA requirements for data collection and reporting. The review is limited to the five data items needed to calculate the TDA-mandated performance indicators. This review has determined that SolTrans is in compliance with the data collection and reporting requirements for all five TDA statistics. In addition, the statistics collected over the six-year review period appear to be consistent with the TDA definitions, and indicate general consistency in terms of the direction and magnitude of the year-to-year changes across the statistics.

One reporting inconsistency was noted for FY2017. Operating costs increased for both fixed-route and paratransit services, while both vehicle service hours and miles decreased the same year. The decrease in service miles was more pronounced than service hours. SolTrans responded that the switch to the new Avail system may be partly responsible, especially for service miles, as previously described reporting variances have been identified. SolTrans also noted that miles decreased due to the elimination of Route 200 into San Francisco, but hours were not impacted as much due to the addition of a demonstration route and extra runs on existing routes. As these routes were shorter distances, the impact on service hours was not as great as the impact on service miles. Another factor in this discrepancy is that SolTrans' operating contract includes an automatic four percent annual increase in payments to the contractor.

Performance Indicators and Trends – SolTrans’ performance trends for the five TDA-mandated indicators were analyzed by mode. A six-year analysis period was used for all the indicators. In addition, component operating costs were analyzed.

- Bus Service – The following is a brief summary of the TDA performance trend highlights over the six-year period of FY2012 through FY2017:
 - There was an average annual increase in the operating cost per hour of 4.7 percent, which amounted to a 2.1 percent increase in inflation adjusted dollars.
 - The cost per passenger increased on average by four percent per year, resulting in an average annual increase of 1.4 percent in constant FY2012 dollars.
 - Passenger productivity showed modest improvement, with passengers per vehicle service hour increasing by 0.7 percent per year overall, and passengers per vehicle service mile increasing by 1.8 percent annually.
 - Employee productivity increased an average 2.7 percent per year.

The following is a brief summary of the component operating costs trend highlights for the bus service between FY2012 and FY2017:

- Purchased transportation costs decreased slightly, an average of less than one percent per year, remaining the largest component cost area at about 65 percent of total costs. Purchased transportation costs decreased in the first three years of the review period, offsetting increases in each of the last three years, resulting in purchased transportation costs remaining relatively flat over the review period.
- In-house labor and fringe benefit costs increased overall, but both these categories combined comprise less than ten percent of total operating costs.
- Services costs increased by about 24 percent on average per year, and comprised between about 12 to 14 percent of total operating costs.

- Costs decreased over the review period for both the fuels/lubricants and casualty/liability categories. The share of fuels/lubricants costs decreased from about 14 percent to eight percent of total operating costs over the review period.
- Materials/supplies costs increased an average of about 26 percent per year, while other expenses showed a large average annual decrease due to an expense transfer in FY2012 that skewed the overall average. Both categories comprised less than four percent of total operating costs.
- Paratransit – The following is a brief summary of the TDA performance trend highlights over the six-year period of FY2012 through FY2017:
 - Cost efficiency showed a decrease, with an average annual increase in the operating cost per hour of seven percent. This amounted to an average annual increase of 4.3 percent in inflation adjusted dollars.
 - Cost effectiveness was similar, with the operating cost per passenger increasing an average of 7.6 percent per year, or 4.9 percent annually when expressed as normalized FY2012 dollars.
 - Passenger productivity was mixed, with only minor changes in performance. Passengers per hour decreased 0.6 percent per year on average, with passengers per mile increasing 0.4 percent annually.
 - Employee productivity increased an annual average of nine percent.

The following is a brief summary of the component operating costs trend highlights for paratransit between FY2012 and FY2017:

- Purchased transportation costs represented the largest portion of total paratransit operating costs, at about 75 percent throughout the review period. Purchased transportation costs increased by 2.5 percent per year on average.
- Significant annual average increases were seen in the labor (22.4 percent), fringe benefits (64 percent), and services (25.2 percent)

categories, however, these three categories combined account for less than 20 percent of the total paratransit costs.

- Fuel/lubricants costs decreased about six percent annually, while their share of total costs decreased from about 12 percent to less than seven percent. Materials/supplies costs increased about 19 percent annually during the review period, but the share of materials/supplies is less than one percent of total operating costs.
- Increases were shown in the casualty/liability and other expenses categories, with both areas comprising less than five percent of total expenses.

PUC Compliance – SolTrans is in compliance with the sections of the state PUC that were reviewed as part of this performance audit. The sections reviewed included requirements concerning CHP safety inspections, labor contracts, reduced fares, Welfare-to-Work, revenue sharing, and evaluation of passenger needs.

Status of Prior Audit Recommendations – There were no recommendations made in SolTrans’ prior performance audit.

Functional Performance Indicator Trends - To further assess SolTrans’ performance over the past three years, a detailed set of systemwide and modal functional area performance indicators was defined and reviewed.

- Systemwide – The following is a brief summary of the systemwide functional trend highlights between FY2015 and FY2017:
 - Administrative costs remained steady at about 47 percent of total operating costs, and also increased by about eight percent to \$58.70 per vehicle service hour in FY2017.

- Marketing costs also remained mostly unchanged at 3.8 percent of total administrative costs, but increased slightly from \$0.14 to \$0.18 per passenger trip during the audit period.
- The systemwide farebox recovery ratio declined from about 32 percent to 26 percent by FY2017.
- Bus Service – The following is a brief summary of the bus service functional trend highlights between FY2015 and FY2017:
 - Service Planning results showed the operating cost per passenger mile increasing by 15.6 percent, farebox recovery declining from about 36 percent to 29 percent, and the TDA recovery ratio (reflecting local support and operating cost exclusions) showing a similar decrease, from 37 to 29 percent. Consistently about 95 percent of vehicle miles and hours were in service, and passenger productivity decreased over the three-year period.
 - Operations results showed vehicle operations costs per service hour decreasing by about four percent, and reduced compared to total costs as well, by about eight percent. On time percentage decreased between FY2015 and FY2016; data for FY2017 was unavailable. The number of complaints per 100,000 trips increased from 16.5 to 27.5 over the three years. Data for missed trips was unavailable for the audit period.
 - Maintenance results showed maintenance costs rose from about 13 percent to 15 percent of total costs, and vehicle maintenance costs per service mile up by 7.4 percent. The vehicle spare ratio remained at 26.2 percent all three years, and noticeable improvement in the mechanical failure rates, particularly in FY2017.
 - Safety results, measured as the rate of preventable accidents per 100,000 miles, showed a more than 80 percent increase in the rate of preventable accidents, but was still a relatively low number, from 0.87 in FY2015 to 1.6 in FY2017.
- Paratransit – The following is a brief summary of the paratransit functional

trend highlights between FY2015 and FY2017:

- Service Planning results showed operating cost per passenger mile increasing by 51.6 percent overall, reflecting decreases in both service miles and ridership. The farebox recovery ratio decreased from 4.7 to 3.5 percent, with the TDA recovery ratio (reflecting local support and operating cost exclusions) showing the same change. Consistently, 85 percent or more vehicle miles and 92 percent of vehicle hours were in service, and passenger productivity was relatively steady.
- Operations results showed a small increase in vehicle operations costs per hour, and a small decrease compared to total costs. Schedule adherence remained steady over the audit period at about 81 percent. The rate of complaints increased slightly between FY2015 and FY2017. One missed trip was recorded in FY2017, the only year data was available. ADA trip denials averaged less than one percent of total ADA trips, although it is likely that the ADA denial number is inaccurate due to flawed counting of ADA and non-ADA denials during the audit period. The trip cancellation rate improved, as did the number of no-shows, but the percentage of late cancellations increased per total ADA trips.
- Maintenance results showed total maintenance costs remaining around 14 percent of total costs, while vehicle maintenance costs per service mile increased overall from \$0.99 to \$1.53. The spare ratio remained constant at 18.2 percent, and there was significant improvement in the mechanical failure rates, especially in FY2017.
- Safety results showed a 40 percent increase in the rate of preventable accidents per 100,000 miles, from 1.7 to 2.3 over the audit period.

Recommendations

1. IMPROVE DATA COLLECTION AND REPORTING ACTIVITIES FOR QUALITY OF SERVICE STATISTICS FOR BOTH THE BUS AND PARATRANSIT SERVICES.

[Reference Section: VI. Functional Performance Indicator Trends]

There were numerous data gaps in quality of service statistics identified in the Functional Performance Indicator section of the audit for SolTrans' bus and paratransit services. As such, functional performance trend analysis could not be made in several performance measures (i.e., on-time performance and missed trips). The required data items that had incomplete data or were not reported for fixed-route included late, missed and total trips. The data items for paratransit service that were incomplete or not reported include complaints and missed trips. SolTrans staff indicated the data provided for paratransit ADA trip denials was not correctly compiled, as it is likely that the staff were combining ADA and non-ADA trips denials in the count. Data for preventable accidents was not available during the data request phase, and was provided late in the audit process.

SolTrans acknowledged that these data elements should have been tracked, or tracked correctly, but the operating contractor did not do so until the end of the current audit period. In some cases, the data was being collected, but being reported or utilized correctly by the operator and/or SolTrans. Also, the change in information systems and contractor personnel caused data gaps in FY2017. Therefore, the data identified as incomplete or missing is unavailable for this audit report. Recently, SolTrans has begun to put procedures in place for its software, and among the contractor staff, to ensure that future data collection and reporting is done correctly.

Collection and reporting of accurate, complete operating data is vital for a comprehensive analysis of performance for both bus and paratransit services. For the latter, these data are additionally important in demonstrating that the transit agency complies with the ADA regulations by ensuring no capacity constraints on complementary paratransit service. SolTrans should ensure that its contractor is collecting quality of service data for both bus and paratransit services, and develop a comprehensive set of performance indicators to include with their existing performance monitoring system.

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I. INTRODUCTION

Public Utilities Code (PUC) Section 99246 requires that a performance audit be conducted every three years of each public transit operator in California. The audit requirement pertains to recipients of Transportation Development Act (TDA) funds, and is intended to assure that the funds are being used efficiently. The substance and process of the performance audit is defined by the Regional Transportation Planning Agency (RTPA).

In the San Francisco Bay Area, the Metropolitan Transportation Commission (MTC) has been designated the RTPA and has this responsibility. By statute, the audit must be conducted in accordance with the U.S. Comptroller General's "Standards for Audit of Governmental Organizations, Programs, Activities, and Functions" (the "yellow book"). The performance audit is a systematic review to determine the extent to which a transit operator has complied with pertinent laws and regulations, and conducted operations in an efficient and economical manner. Relative to system compliance testing, all findings are reported regardless of materiality.

This report has been prepared as part of the performance audit of the Solano County Transit (SolTrans). The two modes operated by SolTrans, bus and paratransit, are the focus of this performance audit. The audit period is Fiscal Years 2015 through 2017 (from July 1, 2014 through June 30, 2017).

An overview of SolTrans is provided in Exhibit 1. This is followed by a recent organization chart in Exhibit 2, which reflects the basic organizational structure during the audit period and beyond.

Performance Audit and Report Organization

This performance audit of SolTrans was conducted for MTC in accordance with its established procedures for performance audits. The audit consisted of two discrete steps:

1. Compliance Audit - Activities in this phase included:
 - An overview of data collection and reporting procedures for the five TDA performance indicators;
 - Analysis of the TDA indicators; and
 - A review of compliance with selected state Public Utilities Code (PUC) requirements.

2. Functional Review - Activities in this phase included:
 - A review of actions to implement the recommendations from the prior performance audit;
 - Calculation and evaluation of functional performance indicator trends; and
 - Findings, conclusions, and the formulation of recommendations.

This report presents the findings from both phases. Comments received from SolTrans and MTC staff have been incorporated into this final report.

Exhibit 1: System Overview

Locations	Operations and Maintenance Facility - 1850 Broadway Street, Vallejo, CA 95489 Administrative Offices & Transit Center – 311 Sacramento Street, Vallejo, CA 94590
Establishment	Solano County Transit (SolTrans) is a Joint Powers Authority that provides public transportation to the southern Solano County cities of Vallejo and Benicia. SolTrans was created by a joint powers agreement approved in the fall of 2010 by the City of Benicia, the City of Vallejo, and the Solano Transportation Authority to build a unified public transit system in southern Solano County. On July 1, 2011, SolTrans officially took over the public transit programs from the cities of Vallejo and Benicia.
Board	SolTrans has a six member Board of Directors with four City Council members from Benicia and Vallejo and two members from regional planning agencies boards of directors, the Metropolitan Transportation Commission (MTC), and the Solano Transportation Authority (STA). The STA member is a non-voting ex-officio member. The Board has two alternate members.
Facilities	The SolTrans operations and maintenance facility is located on Broadway in Vallejo. It is the central base of operations for services and houses the contractor employees as well as SolTrans' operations staff. The remaining SolTrans staff are located in the administrative office located at the Vallejo Transit Center at 311 Sacramento Street, in Downtown Vallejo. SolTrans services are centered around three transit centers in Vallejo: the Vallejo Transit Center, the Sereno Transit Center on Sereno Drive in west Vallejo, and the Curtola Park and Ride Hub at Curtola Parkway and Lemon Street.
Service Data	SolTrans provides local bus service to the Solano County cities of Vallejo and Benicia, with express bus service connecting to the City of Fairfield and the Contra Costa County communities of El Cerrito, Pleasant Hill and Walnut Creek with regional connections to BART. SolTrans contracts with National Express Transit Corporation to operate and maintain its fixed-route and paratransit services. Eight local fixed routes serve Vallejo, two limited service routes operate during school in-service dates within Vallejo and Benicia, one local fixed route to connect Benicia and Vallejo, and three intercity routes connect to surrounding areas. Until January 1, 2017, SolTrans operated one route that provided supplemental service to the Vallejo Ferry, which was fully funded by the Water Emergency Transportation Authority, which provides ferry service between Vallejo and San Francisco. Beginning January 2, 2017, SolTrans added one weekday evening roundtrip run from Vallejo to the San Francisco Transbay

Terminal. General transit within Benicia is provided through a SolTrans branded dial-a-ride service. In addition to fixed route service, SolTrans provides ADA complementary paratransit bus service, and offers local and intercity Taxi Scrip Programs. Solano County's Intercity Taxi Scrip Program provides direct service between cities in Solano County for ambulatory ADA Paratransit qualified individuals. The Taxi Scrip service is not included in this performance audit.

SolTrans operates nine local fixed-routes with a span of service Monday through Friday from 5:30 a.m. to 8:45 p.m., Saturdays 6:30 a.m. to 7:40 p.m. and two routes on Sunday 8:30 a.m. to 7:45 p.m. Frequencies on most routes are variable and midday trips are often widely spaced, but headways generally run on 15 to 60 minute headways during the peak periods and 45 to 90 minutes off-peak. Inter-city service runs weekdays from approximately 4:15 a.m. to 11:30 p.m., Saturdays 6:00 a.m. to 11:30 p.m. and two routes on Sunday from 8:00 a.m. to 10:00 p.m. SolTrans' current fixed-route fleet consists of 47 revenue vehicles, including diesel, diesel-electric hybrid, compressed natural gas, and electric 40-foot and 45-foot transit coaches.

The local adult fare is \$1.75, and the express fare is \$5.00. Discounted fares are offered to senior patrons, disabled patrons, and Medicare cardholders at \$0.85 for local routes and \$2.50 for express routes. Daily and 31-day passes and discounted 10-ride tickets are also available.

Complementary ADA paratransit service is provided by SolTrans Paratransit seven days a week during the same hours as the fixed route service. The fare is \$3.00 per trip within Vallejo and \$5.50 for regional trips. A \$30 10-Ride Pass is also available.

SolTrans Dial-a-Ride is general public demand response service available in the City of Benicia only. This service is open to the public with no application necessary for use. Reservations are required and are scheduled on a first come, first served basis. Dial-A-Ride also serves ADA eligible residents within Benicia City limits. ADA eligible riders requiring a trip to Vallejo are placed on traditional paratransit. Dial-a Ride operates weekdays from 5:50 a.m. to 8:20 p.m. and Saturday 7:00 a.m. to 7:00 p.m. Cash fare is \$2.00, or \$20 for a 10-Ride Pass

Recent Changes

SolTrans completed a system restructuring/expansion on January 31, 2015 to restore some of the 2012 service reductions. SolTrans also added some new service in late 2015 and 2016. Aspects of the restructuring and the new service included:

- An additional 8,600 annualized revenue hours, on the most productive local bus routes;

- An additional 3,000 revenue hours for a fixed route pilot between Benicia and Vallejo;
- An additional 4,000 revenue hours for the re-establishment of Sunday Route 80 service to the El Cerrito del Norte BART station and expanded weekday service on Route 78 serving Benicia and the Pleasant Hill and Walnut Creek BART stations.

SolTrans also completed the following projects:

- Replacement of six over-the-road coaches with four more on order to be delivered by the end of 2017;
- Purchased two electric battery buses to be used in the local fleet;
- Renovation and expansion of the existing central operations and maintenance facility on Broadway;
- Expansion and re-design of the Curtola Park and Ride Hub, including parking lot expansion, bus transit center re-design, facility security, maintenance, landscaping and technology upgrades;
- Purchase and installation of a new AVL-CAD system on the fixed route fleet;
- Technology enhancements including new security cameras, fareboxes, Clipper fare equipment, several new software packages, and IT system improvements.
- Construction on a compressed natural gas (CNG) fueling facility was completed and became operational in February 2018.

Planned Changes

SolTrans is planning the following projects:

- A Comprehensive Operational Analysis of SolTrans' local fixed route service to be completed by Fall of 2018;
- Replacement of the remaining diesel over-the-road coaches by 2019;
- Purchase of an electric bus to add to the local fixed route fleet by 2019;
- Replacement of 21 local fixed route buses are planned within the over the next five to ten years;
- Design and installation of electrical infrastructure to support a future electric fleet.

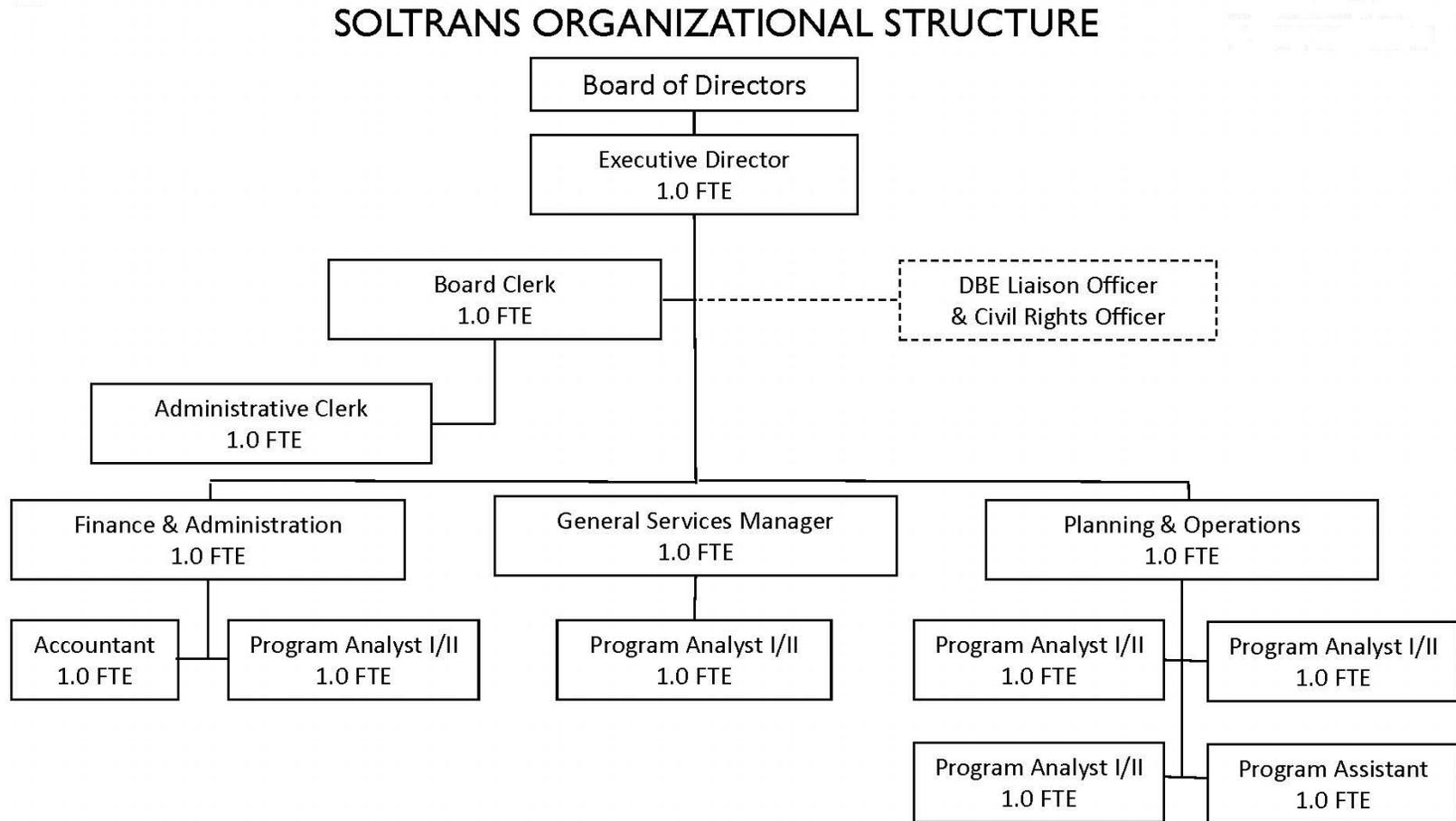
Staff

SolTrans currently has thirteen approved in-house positions:

- One (1) Executive Director;
- One (1) Board Clerk;
- One (1) Administrative Clerk;
- One (1) Finance & Administration Manager;
- One (1) General Services Manager;

- One (1) Planning & Operations Manager;
- One (1) Accountant;
- Five (5) Program Analysts I & II; and
- One (1) Program Assistant.

Exhibit 2: Organization Chart



II. REVIEW OF TDA DATA COLLECTION AND REPORTING METHODS

This section focuses on the five performance indicators required by TDA law. These indicators have been defined by the state PUC to evaluate the transit operator's efficiency, effectiveness and economy. The purpose of this review is to determine if SolTrans is in compliance with the data collection and reporting requirements necessary to calculate the TDA performance indicators. The review is limited to the data items needed to calculate the indicators:

- Operating costs
- Vehicle service hours
- Vehicle service miles
- Unlinked passengers
- Employees (full-time equivalents)

The TDA indicator analysis is based on these operating and financial statistics in the National Transit Database (NTD) reports submitted annually to the Federal Transit Administration (FTA). The information reported by SolTrans covering the audit period has been reviewed. SolTrans' NTD reports include its bus and paratransit services. However, consistent with FTA reporting requirements, SolTrans does not submit employee hour information for purchased transportation service to the NTD.

Prior to Feb. 1, 2017, SolTrans contracted with Solutions for Transit for use of their Reporting Solution database to house data needed for reporting. Solutions for Transit worked directly with the transit contractor, National Express, for input on deviations from the schedule to ensure accurate tracking of hours and miles.

After Feb. 1, 2017, SolTrans implemented a CAD-AVL system from Avail Technologies. This system includes a database to house all data (hours and miles) needed for reporting purposes.

Compliance with Requirements

To support this review, SolTrans staff confirmed that the data collection and reporting procedures remain mostly unchanged from those described in the prior performance audit, with the exception of the implementation of new AVL technology. SolTrans has discovered some glitches in data collection utilizing the new system. For example, the Avail system appears to be adjusting the ridership data uploaded daily from the GFI fareboxes. SolTrans has not yet figured out the problem, and therefore has been using the GFI system to generate ridership reports until the conflict with the Avail system is corrected.

Additionally, SolTrans has identified discrepancies between miles calculated in its TMS scheduling software and miles being reported in the Avail system. SolTrans has been manually calculating route miles and overriding the input miles in Avail with the true calculated mileage to ensure accuracy. However, there still appear to be variances in vehicle mileage reported in Avail, and SolTrans is continuing to investigate the causes.

Despite the reporting difficulties identified by SolTrans and based on the information provided, as shown in Exhibit 3.1, SolTrans is in compliance with the data collection and reporting requirements for all five TDA statistics.

Consistency of the Reported Statistics

The resulting TDA statistics for SolTrans' bus and paratransit services are shown in Exhibits 3.2 and 3.3, respectively. Included are statistics covering each fiscal year of the three-year audit period, plus the immediately preceding three fiscal years, resulting in a six-year trend. The statistics collected over the period appear to be consistent with the TDA definitions. Further, they indicate general consistency in terms of the direction and magnitude of the year-to-year changes across the statistics. For example, increases or decreases in annual operating costs are relatively proportional to increases or decreases in annual vehicle service hours and miles.

One reporting inconsistency was noted for FY2017. Operating costs increased for both fixed-route and paratransit services, while both vehicle service hours and miles decreased the same year. The decrease in service miles was more pronounced than service hours. SolTrans responded that the switch to the new Avail system may be partly responsible, especially for service miles, as previously described reporting variances have been identified. SolTrans also noted that miles decreased due to the elimination of Route 200 into San Francisco, but hours were not impacted as much due to the addition of a demonstration route and extra runs on existing routes. As these routes were shorter distances, the impact on service hours was not as great as the impact on service miles. Another factor in this discrepancy is that SolTrans' operating contract includes an automatic four percent annual increase in payments to the contractor.

Exhibit 3.1: Compliance with TDA Data Collection and Reporting Requirements

TDA Statistic	TDA Definition	Compliance Finding	Verification Information
Operating Cost	<p>“Operating cost” means all costs in the operating expense object classes exclusive of the costs in the depreciation and amortization expense object class of the uniform system of accounts and records adopted by the Controller pursuant to Section 99243. Also excluded are all subsidies for commuter rail services operated on railroad lines under the jurisdiction of the Federal Railroad Administration, all direct costs for providing charter services, all vehicle lease costs, and principal and interest payments on capital projects funded with certificates of participation.</p>	In Compliance	<ul style="list-style-type: none"> • Operating costs for the agency are broken down between the fixed route, demand response and taxi scrip modes. Expenses are categorized for each mode (i.e. service contract, salaries and benefits, maintenance, general administration, insurance, accounting, etc.). Expenses reported in annual TDA claim are tied to the annual audited financial statements. Depreciation and amortization are not included in the calculation of expenses.
Vehicle Service Hours	<p>“Vehicle service hours” means the total number of hours that each transit vehicle is in revenue service, including layover time.</p>	In Compliance	<ul style="list-style-type: none"> • Pre Feb. 1, 2017 - hours are based on the published schedule and adjusted for missed trips and any other schedule deviations. • Post Feb. 1, 2017 - scheduled hours are imported into Avail from SolTrans’ scheduling software, TMS. Any deviations to the scheduled hours are input daily into Avail by National Express Staff.

TDA Statistic	TDA Definition	Compliance Finding	Verification Information
Vehicle Service Miles	“Vehicle service miles” means the total number of miles that each transit vehicle is in revenue service.	In Compliance	<ul style="list-style-type: none"> • Pre Feb. 1, 2017 - miles are based on published schedule and adjusted for missed trips and any other schedule deviations. • Post Feb. 1, 2017 - scheduled miles are imported into Avail from SolTrans’ scheduling software, TMS. Any deviations to the scheduled hours are input daily into Avail by National Express Staff. • SolTrans discovered that TMS calculates miles between stops “as the crow flies” which results in lower mileage than is actually being incurred, especially on commuter routes. As a result, SolTrans has manually calculated route miles for the commuter routes and has overrode the schedule miles in Avail with the true expected mileage.
Unlinked Passengers	“Unlinked passengers” means the number of boarding passengers, whether revenue producing or not, carried by the public transportation system.	In Compliance	<ul style="list-style-type: none"> • Pre Feb. 1, 2017 - ridership is tracked through GFI Odyssey Fareboxes. The GFI server is updated each night and Solutions for Transit automatically exports a copy daily to their database. All collected fares not associated with a rider is converted to riders based on average fares and thus gives us adjusted ridership numbers which are used for NTD and other external reporting. • Post Feb. 1, 2017 - ridership is tracked through GFI Odyssey Fareboxes. The GFI server is updated each night and Avail automatically exports a copy daily to their database. There appears to be some adjustment to GFI numbers in Avail but SolTrans is unable to determine exactly what is being done to the data. Therefore, SolTrans is running reports in GFI to report ridership at this time, vs. using the Avail reports.

TDA Statistic	TDA Definition	Compliance Finding	Verification Information
Employee Full-Time Equivalents	2,000 person-hours of work in one year constitute one employee.	In Compliance	<ul style="list-style-type: none"> • SolTrans defines one FTE employee as 2,000 person-hours of work during a one year period.

Exhibit 3.2: TDA Statistics – Bus Service

TDA Statistic	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017
Operating Cost (Actual \$)	\$10,905,717	\$9,649,801	\$9,625,507	\$10,128,752	\$10,594,647	\$11,826,483
<i>Annual Change</i>	- -	-11.5%	-0.3%	5.2%	4.6%	11.6%
Vehicle Service Hours	106,037	84,362	82,444	86,895	97,734	97,167
<i>Annual Change</i>	- -	-20.4%	-2.3%	5.4%	12.5%	-0.6%
Vehicle Service Miles	1,963,072	1,598,638	1,557,779	1,634,273	1,902,244	1,700,035
<i>Annual Change</i>	- -	-18.6%	-2.6%	4.9%	16.4%	-10.6%
Unlinked Passengers	1,487,386	1,357,683	1,438,149	1,451,350	1,516,835	1,410,375
<i>Annual Change</i>	- -	-8.7%	5.9%	0.9%	4.5%	-7.0%
Employee Full-Time Equivalent	132.2	116.2	105.0	107.0	121.8	106.1
<i>Annual Change</i>	- -	-12.1%	-9.6%	1.9%	13.8%	-12.9%

Sources: FY2012 through FY2014 - Prior Performance Audit Report
 FY2015 through FY2017 - NTD Reports; FY2017 Revision 3, except FTEs provided by SolTrans contractor

Exhibit 3.3: TDA Statistics – Paratransit

TDA Statistic	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017
Operating Cost (Actual \$)	\$1,359,650	\$1,437,722	\$1,583,647	\$1,667,253	\$1,599,198	\$1,697,513
<i>Annual Change</i>	- -	5.7%	10.1%	5.3%	-4.1%	6.1%
Vehicle Service Hours	15,227	17,205	15,372	15,229	13,945	13,562
<i>Annual Change</i>	- -	13.0%	-10.7%	-0.9%	-8.4%	-2.7%
Vehicle Service Miles	172,366	216,832	201,648	208,602	166,387	145,727
<i>Annual Change</i>	- -	25.8%	-7.0%	3.4%	-20.2%	-12.4%
Unlinked Passengers	31,021	41,903	34,453	32,476	29,110	26,817
<i>Annual Change</i>	- -	35.1%	-17.8%	-5.7%	-10.4%	-7.9%
Employee Full-Time Equivalent	23.8	17.8	16.0	13.2	11.8	13.8
<i>Annual Change</i>	- -	-25.2%	-10.1%	-17.5%	-10.6%	16.9%

Sources: FY2012 through FY2014 - Prior Performance Audit Report
 FY2015 through FY2017 - NTD Reports; FY2017 Revision 3, except FTEs provided by SolTrans contractor

III. TDA PERFORMANCE INDICATORS AND TRENDS

The performance trends for SolTrans' bus and paratransit service modes are presented in this section. Performance is discussed for each of the five TDA-mandated performance indicators:

- operating cost per vehicle service hour
- passengers per vehicle service hour
- passengers per vehicle service mile
- operating cost per passenger
- vehicle service hours per full-time equivalent employee (FTE)

The performance results in these indicators were primarily developed from the information in the NTD reports filed with the FTA for the three years of the audit period. SolTrans' NTD reports were the source of all operating and financial statistics except for contractor FTEs. Contractor employee FTE data was provided by SolTrans staff from data reported by the contractor.

In addition to presenting performance for the three years of the audit period (FY2015 through FY2017), this analysis features two enhancements:

- Six-Year Time Period – While the performance audit focuses on the three fiscal years of the audit period, six-year trend lines have been constructed for SolTrans' service to provide a longer perspective on performance and to clearly present the direction and magnitude of the performance trends. In this analysis, the FY2015 to FY2017 trend lines have been combined with those from the prior audit period (FY2012 through FY2014) to define a six-year period of performance.
- Normalized Cost Indicators for Inflation – Two financial performance indicators (cost per hour and cost per passenger) are presented in both

constant and current dollars to illustrate the impact of inflation in the Bay Area. The inflation adjustment relies on the All Urban Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W) for the San Francisco Metropolitan Area. The average CPI-W percent change for each fiscal year has been calculated based on the bi-monthly results reported on the U.S. Department of Labor – Bureau of Labor Statistics website. The CPI-W is used since labor is the largest component of operating cost in transit. Since labor costs are typically controlled through labor contracts, changes in normalized costs largely reflect those factors that are within the day-to-day control of the transit system.

The following discussion is organized to present an overview of SolTrans' performance trends in each of the five TDA performance indicators. The discussion is organized by service mode -- bus service is discussed first, followed by paratransit. The analysis is also expanded to include a breakdown of the various component costs that contributed to the total and hourly operating costs during the last six years.

Bus Service Performance Trends

This section provides an overview of the performance of SolTrans' bus service over the past six years. The trends in the TDA indicators and input statistics are presented in Exhibit 4. The six-year trends are illustrated in Exhibits 4.1 through 4.4.

- Operating Cost Per Vehicle Service Hour (Exhibit 4.1)
 - A key indicator of cost efficiency, the cost per hour of bus service increased an average of 4.7 percent annually during the six-year review period.
 - The cost per hour ranged from a low of \$96.57 in FY2012 to a high of \$121.71 in FY2017. There were increases in every year except FY2015 and FY2016, with the largest (18.5 percent) occurring in FY2013.

- In FY2012 constant dollars, there was an average annual increase of 2.1 percent in this indicator.
- Passengers per Vehicle Service Hour (Exhibit 4.2)
 - A key indicator of passenger productivity, passengers per hour was almost unchanged, increasing an average of 0.7 percent annually during the six-year period.
 - The increase reflects modest overall decreases in both passengers and service hours over the six-year period. Passengers per hour increased during the first half of the review period, before declining in the last three years.
 - Passengers per hour increased overall from 14.0 in FY2012 to 14.5 in FY2017.
- Passengers per Vehicle Service Mile (Exhibit 4.2)
 - Similar to passengers per hour, passengers per mile also increased overall, but by a slightly higher 1.8 percent annually on average.
 - Performance in passengers per mile was similar to that of passengers per hour, with an initial increase in the first three years of the review period, followed by a decrease in the last three years
 - Passengers per mile increased overall from 0.76 passengers per mile in FY2012 to 0.83 passengers per mile in FY2017.
- Operating Cost per Passenger (Exhibit 4.3)
 - A key measure of cost effectiveness, the cost per passenger increased from \$6.88 in FY2012 to \$8.39 in FY2017.
 - The cost per passenger varied over the first three years of the review period, before increasing in the last three years, largely due to operating costs outpacing ridership in the those years.
 - Overall, cost per passenger increased an average of four percent annually. With the impact of inflation removed from the cost side

(normalization), cost per passenger exhibited an average annual increase of 1.4 percent per year.

- Vehicle Service Hours per Employee (FTE) (Exhibit 4.4)
 - A measure of employee productivity, this indicator increased by an average 2.7 percent per year over the six years.
 - Hours per FTE decreased overall from 802 in FY2012 to 916 in FY2017.
 - Annual FTEs decreased at a higher rate than vehicle service hours overall during the period.

* * * * *

The following is a brief summary of the bus service TDA performance trend highlights over the six-year period of FY2012 through FY2017:

- There was an average annual increase in the operating cost per hour of 4.7 percent, which amounted to a 2.1 percent increase in inflation adjusted dollars.
- The cost per passenger increased on average by four percent per year, resulting in an average annual increase of 1.4 percent in constant FY2012 dollars.
- Passenger productivity showed modest improvement, with passengers per vehicle service hour increasing by 0.7 percent per year overall, and passengers per vehicle service mile increasing by 1.8 percent annually.
- Employee productivity increased an average 2.7 percent per year.

Exhibit 4: TDA Indicator Performance - Bus Service

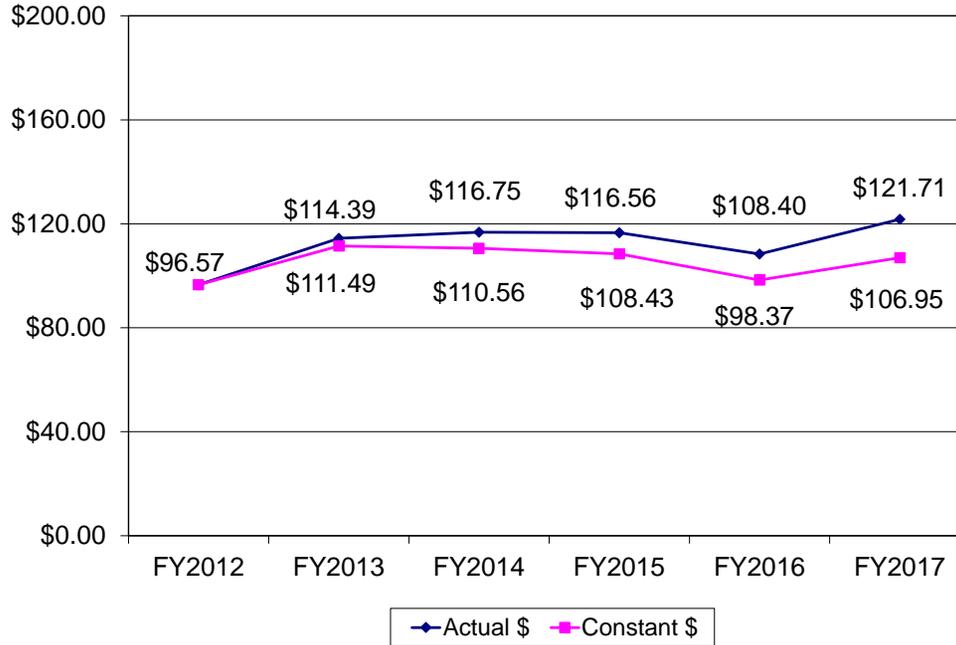
	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	Av. Ann. Chg.
Performance Indicators							
Op. Cost per Vehicle Svc. Hour (Actual \$)	\$96.57	\$114.39	\$116.75	\$116.56	\$108.40	\$121.71	- -
<i>Annual Change</i>	- -	18.5%	2.1%	-0.2%	-7.0%	12.3%	4.7%
Op. Cost per Vehicle Svc. Hour (Constant \$)	\$96.57	\$111.49	\$110.56	\$108.43	\$98.37	\$106.95	- -
<i>Annual Change</i>	- -	15.4%	-0.8%	-1.9%	-9.3%	8.7%	2.1%
Passengers per Vehicle Service Hour	14.0	16.1	17.4	16.7	15.5	14.5	- -
<i>Annual Change</i>	- -	14.7%	8.4%	-4.3%	-7.1%	-6.5%	0.7%
Passengers per Vehicle Service Mile	0.76	0.85	0.92	0.89	0.80	0.83	- -
<i>Annual Change</i>	- -	12.1%	8.7%	-3.8%	-10.2%	4.0%	1.8%
Op. Cost per Passenger (Actual \$)	\$6.88	\$7.11	\$6.69	\$6.98	\$6.98	\$8.39	- -
<i>Annual Change</i>	- -	3.2%	-5.8%	4.3%	0.1%	20.1%	4.0%
Op. Cost per Passenger (Constant \$)	\$6.88	\$6.93	\$6.34	\$6.49	\$6.34	\$7.37	- -
<i>Annual Change</i>	- -	0.6%	-8.5%	2.4%	-2.4%	16.3%	1.4%
Vehicle Service Hours per FTE	802	726	785	812	803	916	- -
<i>Annual Change</i>	- -	-9.5%	8.2%	3.4%	-1.1%	14.0%	2.7%
Input Data							
Operating Cost (Actual \$)	\$10,239,804	\$9,649,801	\$9,625,507	\$10,128,752	\$10,594,647	\$11,826,483	- -
<i>Annual Change</i>	- -	-5.8%	-0.3%	5.2%	4.6%	11.6%	2.9%
Operating Cost (Constant \$)	\$10,239,804	\$9,405,264	\$9,115,063	\$9,422,095	\$9,614,017	\$10,392,340	- -
<i>Annual Change</i>	- -	-8.1%	-3.1%	3.4%	2.0%	8.1%	0.3%
Vehicle Service Hours	106,037	84,362	82,445	86,895	97,734	97,167	- -
<i>Annual Change</i>	- -	-20.4%	-2.3%	5.4%	12.5%	-0.6%	-1.7%
Vehicle Service Miles	1,963,102	1,598,638	1,557,780	1,634,273	1,902,244	1,700,035	- -
<i>Annual Change</i>	- -	-18.6%	-2.6%	4.9%	16.4%	-10.6%	-2.8%
Unlinked Passengers	1,487,386	1,357,683	1,438,146	1,451,350	1,516,835	1,410,375	- -
<i>Annual Change</i>	- -	-8.7%	5.9%	0.9%	4.5%	-7.0%	-1.1%
Employee Full-Time Equivalents	132.2	116.2	105.0	107.0	121.7	106.1	- -
<i>Annual Change</i>	- -	-12.1%	-9.6%	1.9%	13.7%	-12.8%	-4.3%
Bay Area CPI - Annual Change	- -	2.6%	2.9%	1.9%	2.5%	3.3%	- -
- Cumulative Change	- -	2.6%	5.6%	7.5%	10.2%	13.8%	2.6%

Sources: FY2012 through FY2014 - Prior Performance Audit Report

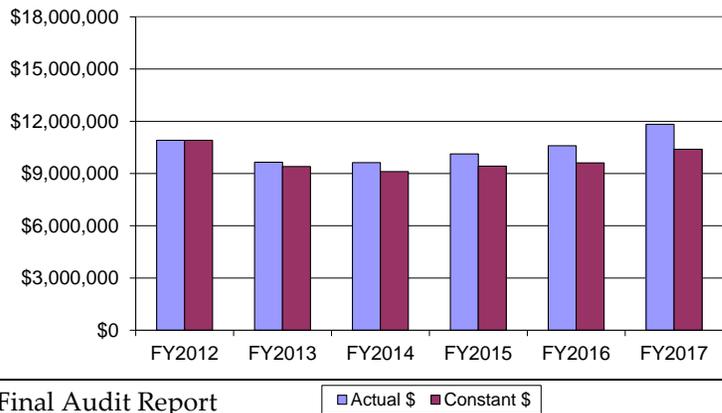
FY2015 through FY2017 - NTD Reports; FY2017 Revision 3, except FTEs provided by SolTrans contractor

CPI Data - U.S. Department of Labor, Bureau of Labor Statistics

Exhibit 4.1: Operating Cost per Vehicle Service Hour - Bus Service



Operating Cost



Vehicle Service Hours

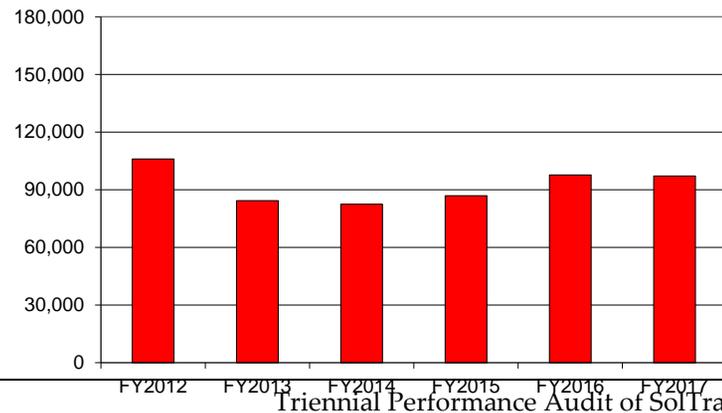
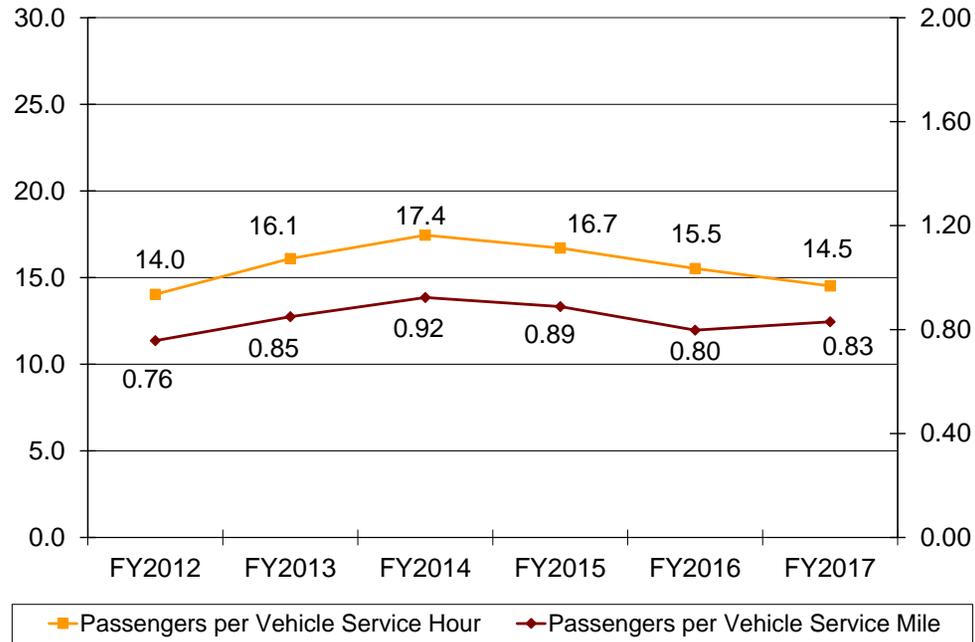
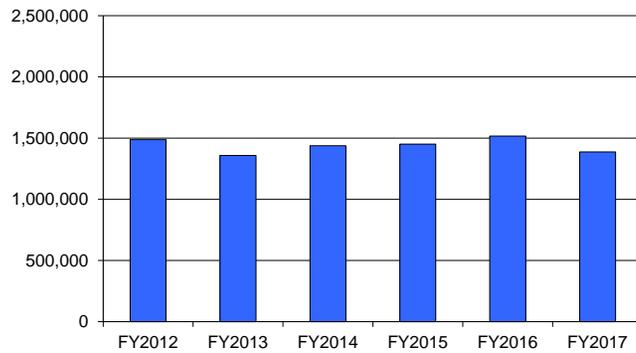


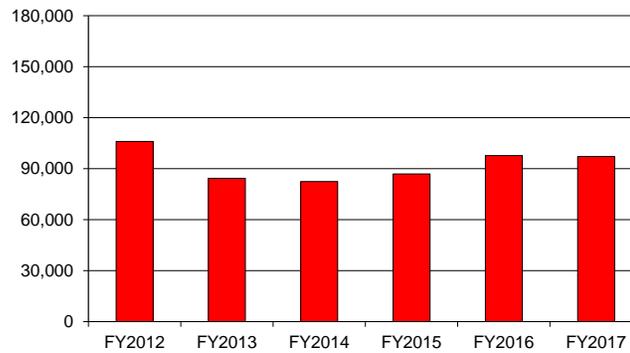
Exhibit 4.2: Passengers per Hour and per Mile – Bus Service



Unlinked Passengers



Vehicle Service Hours



Vehicle Service Miles

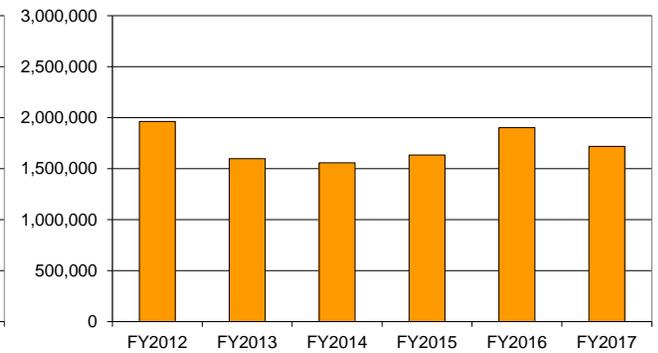
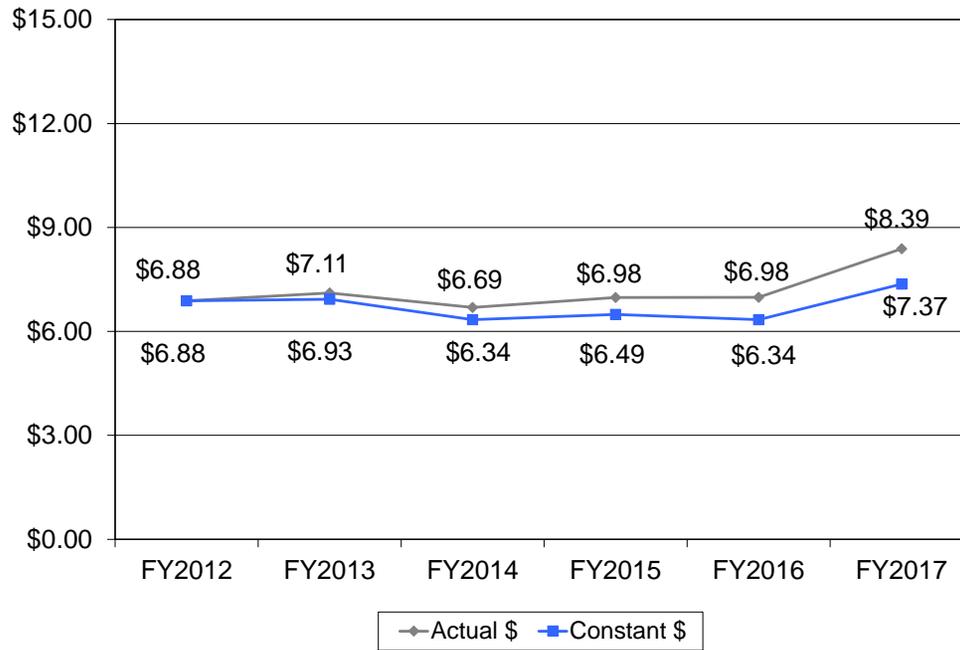
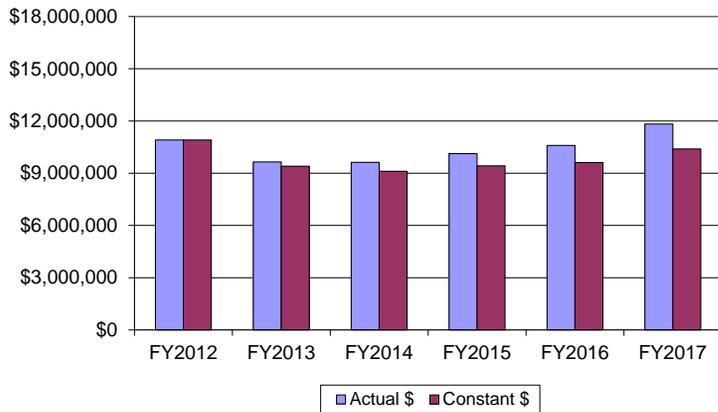


Exhibit 4.3: Operating Cost per Passenger – Bus Service



Operating Cost



Unlinked Passengers

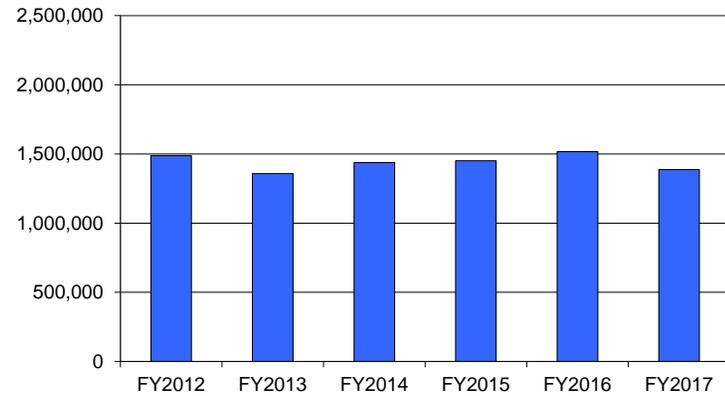
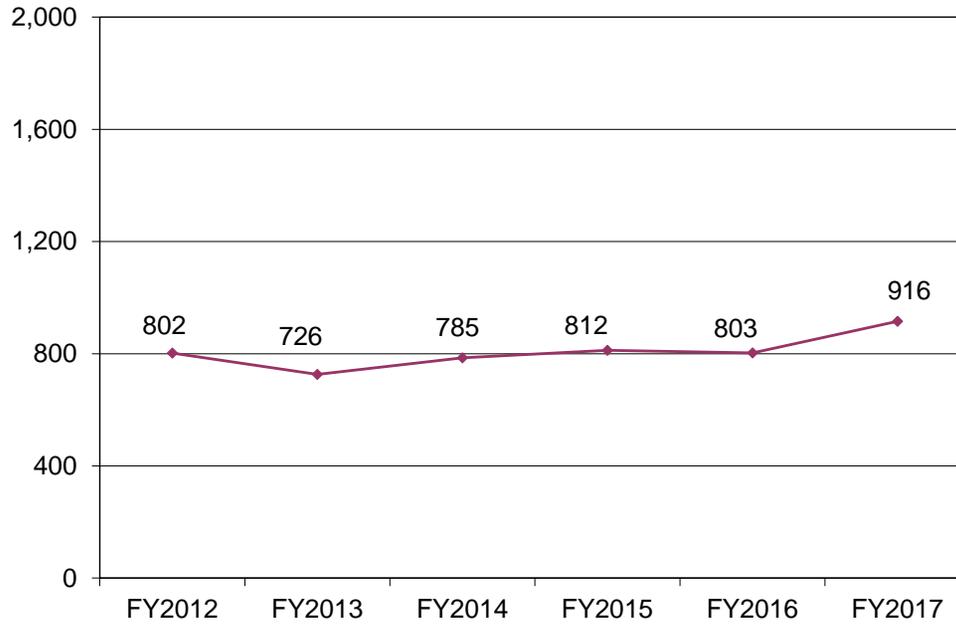
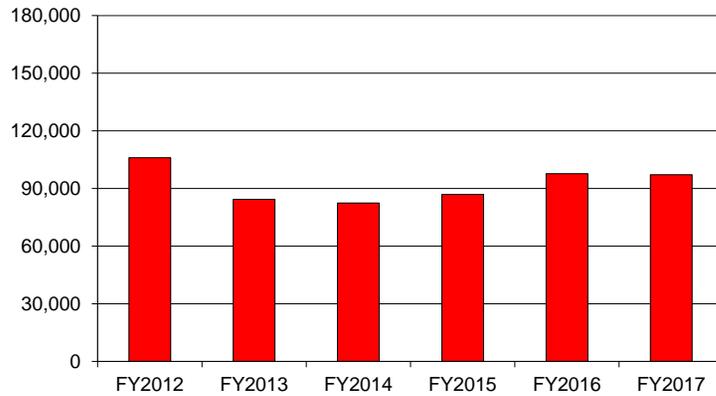


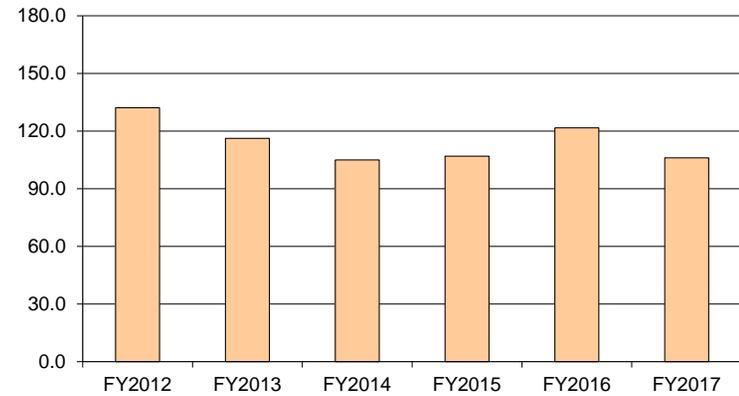
Exhibit 4.4: Vehicle Service Hours per FTE – Bus Service



Vehicle Service Hours



Full-time Equivalents



Bus Service Component Costs

Year-to-year changes in selected operating cost categories over the past six years are presented in Exhibit 4.5. Examining components of operating costs (e.g., labor, fringes, fuel, and casualty/liability) may determine what particular components had the most significant impacts on the operating costs. Exhibit 4.5 also shows the concurrent changes in vehicle service hours, and Exhibit 4.6 illustrates the portion of the cost per bus service hour that can be attributed to each included cost component.

- In-house labor costs increased an annual average of 19 percent over the six-year period. This is largely attributed to an increase in staffing during the current audit period.
- Fringe benefits costs increased an annual average of 164.6 percent. This is mostly due to large increases occurring in FY2013 (2,110 percent) and FY2014 (167 percent) related to the start-up costs for the new SolTrans system. Those large increases are skewing the overall average annual increase.
- Services costs increased by about 24 percent on average per year. Services costs averaged between about 12 to 14 percent of total operating costs over the review period.
- Purchased transportation costs decreased slightly, an annual average of 0.8 percent per year. Decreases in purchased transportation costs in the first three years of the review period offset increases in each of the last three years, causing the decrease in the overall trend.
- Costs for both fuels/lubricants and casualty/liability decreased about nine percent and 39 percent, respectively. The fuel/lubricant share of total operating costs decreased from about 14 percent to eight percent over the review period.
- Materials/supplies costs increased almost 26 percent per year. SolTrans did not report any materials/supplies costs in FY2013 and FY2014. They began reporting materials/supplies costs again in FY2015 due to a change in NTD reporting requirements. The other expenses cost category showed an

overall negative average annual decrease of over 200 percent due to an expense transfer that occurred in FY2013.

* * * * *

The following is a brief summary of the bus service component operating costs trend highlights between FY2012 and FY2017:

- Purchased transportation costs decreased slightly, an average of less than one percent per year, remaining the largest component cost area at about 65 percent of total costs. Purchased transportation costs decreased in the first three years of the review period, offsetting increases in each of the last three years, resulting in purchased transportation costs remaining relatively flat over the review period.
- In-house labor and fringe benefit costs increased overall, but both these categories combined comprise less than ten percent of total operating costs.
- Services costs increased by about 24 percent on average per year, and comprised between about 12 to 14 percent of total operating costs.
- Costs decreased over the review period for both the fuels/lubricants and casualty/liability categories. The share of fuels/lubricants costs decreased from about 14 percent to eight percent of total operating costs over the review period.
- Materials/supplies costs increased an average of about 26 percent per year, while other expenses showed a large average annual decrease due to an expense transfer in FY2012 that skewed the overall average. Both categories comprised less than four percent of total operating costs.

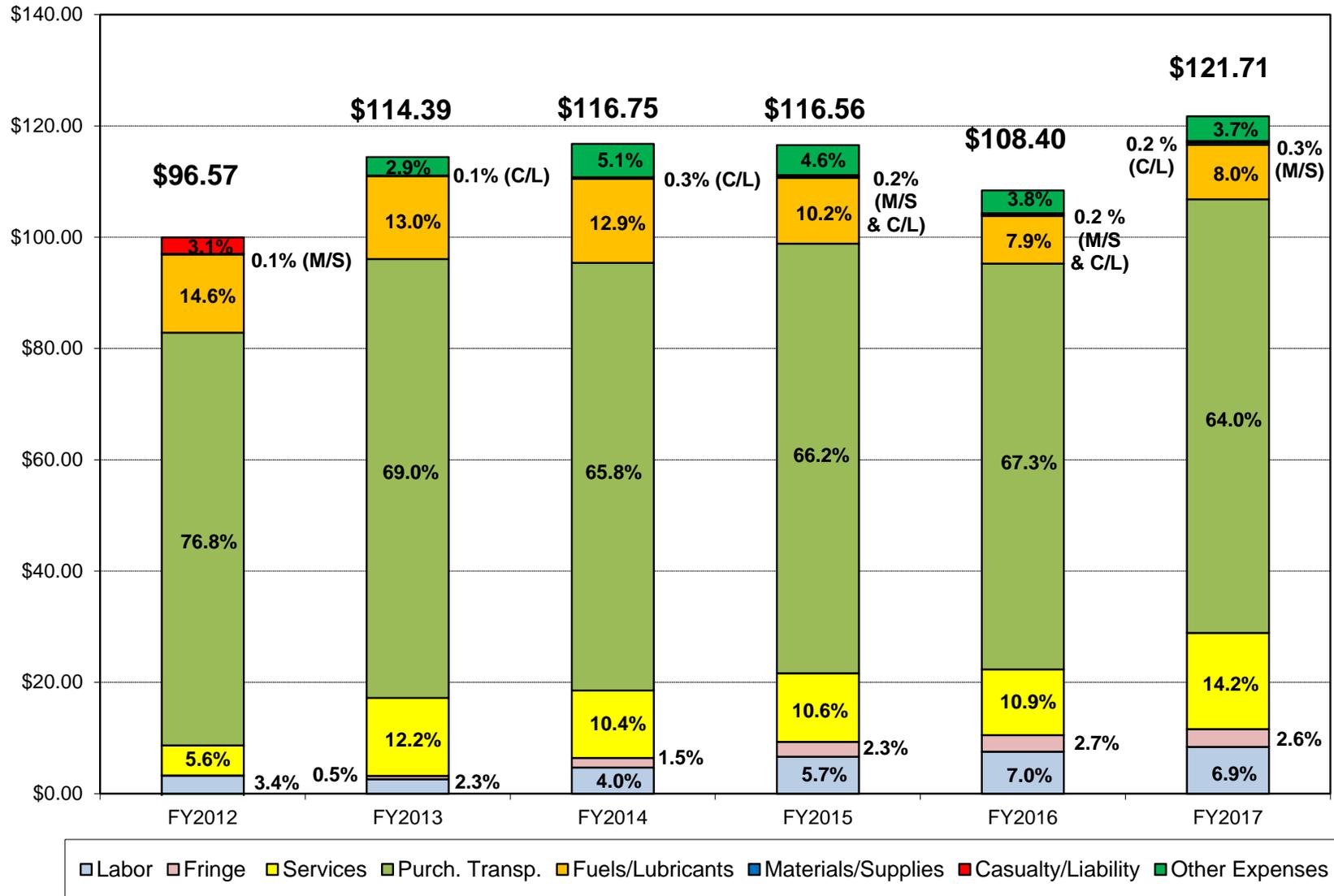
Exhibit 4.5: Component Cost Trends – Bus Service

	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	Av. Ann. Chg.
COST CATEGORIES							
Labor - (Salaries, Wages)	\$343,841	\$217,993	\$388,712	\$575,922	\$737,409	\$818,838	--
Annual Change	--	-36.6%	78.3%	48.2%	28.0%	11.0%	19.0%
Fringe Benefits	\$2,382	\$52,639	\$140,341	\$232,141	\$289,177	\$309,220	--
Annual Change	--	2109.9%	166.6%	65.4%	24.6%	6.9%	164.6%
Services	\$571,257	\$1,181,463	\$1,000,210	\$1,073,073	\$1,154,718	\$1,679,231	--
Annual Change	--	106.8%	-15.3%	7.3%	7.6%	45.4%	24.1%
Purchased Transportation	\$7,865,544	\$6,654,221	\$6,335,688	\$6,708,074	\$7,127,238	\$7,573,329	--
Annual Change	--	-15.4%	-4.8%	5.9%	6.2%	6.3%	-0.8%
Fuels/Lubricants	\$1,493,061	\$1,256,349	\$1,242,117	\$1,030,189	\$836,662	\$950,012	--
Annual Change	--	-15.9%	-1.1%	-17.1%	-18.8%	13.5%	-8.6%
Materials/Supplies	\$12,074	\$0	\$0	\$23,476	\$24,012	\$38,127	--
Annual Change	--	-100.0%	--	--	2.3%	58.8%	25.9%
Casualty/Liability	\$313,661	\$8,321	\$26,274	\$16,381	\$25,204	\$25,902	--
Annual Change	--	-97.3%	215.8%	-37.7%	53.9%	2.8%	-39.3%
Other Expenses (a)	-\$362,016	\$278,815	\$492,165	\$469,494	\$400,227	\$431,824	--
Annual Change	--	-177.0%	76.5%	-4.6%	-14.8%	7.9%	-203.6%
Total	\$10,239,804	\$9,649,801	\$9,625,507	\$10,128,750	\$10,594,647	\$11,826,483	--
Annual Change	--	-5.8%	-0.3%	5.2%	4.6%	11.6%	2.9%
OPERATING STATISTICS							
Vehicle Service Hours	106,037	84,362	82,444	86,895	97,734	97,167	--
Annual Change	--	-20.4%	-2.3%	5.4%	12.5%	-0.6%	-1.7%

Sources: FY2012 through FY2014 - Prior Performance Audit Report; FY2015 through FY2017 - NTD Reports; FY2017 Revision 3
(a) Includes utilities and miscellaneous expenses

Exhibit 4.6: Distribution of Component Costs – Bus Service

Operating Cost per Vehicle Service Hour



Paratransit Performance Trends

This section provides an overview of the performance of SolTrans' paratransit service over the six year analysis period. The trends in the TDA indicators and input data are presented in Exhibit 5. The six-year trends are illustrated in Exhibits 5.1 through 5.4.

- Operating Cost per Vehicle Service Hour (Exhibit 5.1)
 - SolTrans' paratransit cost per hour increased in every year except FY2013, from \$89.29 in FY2012 to \$125.17 in FY2017.
 - This performance was the result of declining vehicle service hours combined with modest increases in operating costs over the review period. Overall, the cost per hour increased an average of seven percent per year over the six years.
 - With the effects of inflation removed, cost per hour exhibited an average annual increase of 4.3 percent.
- Passengers per Vehicle Service Hour (Exhibit 5.2)
 - Passengers per vehicle service hour was unchanged overall at two passengers per hour in both FY2012 and FY2017, with some fluctuations in between.
 - The trend amounted to an average annual decrease of 0.6 percent, as overall annual passenger levels decreased at a slightly higher rate than service hours.
- Passengers per Vehicle Service Mile (Exhibit 5.2)
 - Performance in passengers per vehicle service mile also was mostly unchanged, with an average increase of 0.4 percent over the six-year period.
 - SolTrans' paratransit service carried between 0.16 and 0.19 passengers per mile in every year of the review period.

- Operating Cost per Passenger (Exhibit 5.3)
 - The cost per passenger rose by 7.6 percent per year on average through the review period, from \$43.83 in FY2012 to \$63.30 in FY2017.
 - As with cost per hour, this performance was the result of increased operating costs and decreased ridership over the review period.
 - With the impact of inflation removed, there was an average annual increase in the cost per passenger of 4.9 percent.

- Vehicle Service Hours per FTE (Exhibit 5.4)
 - Employee productivity increased from 640 hours per FTE in FY2012 to 983 hours in FY2017.
 - Employee FTEs decreased at a higher rate than service hours over the review period.
 - Overall, employee productivity increased an average of nine percent per year over the review period.

* * * * *

The following is a brief summary of the paratransit TDA performance trend highlights over the six-year period of FY2012 through FY2017:

- Cost efficiency showed a decrease, with an average annual increase in the operating cost per hour of seven percent. This amounted to an average annual increase of 4.3 percent in inflation adjusted dollars.
- Cost effectiveness was similar, with the operating cost per passenger increasing an average of 7.6 percent per year, or 4.9 percent annually when expressed as normalized FY2012 dollars.

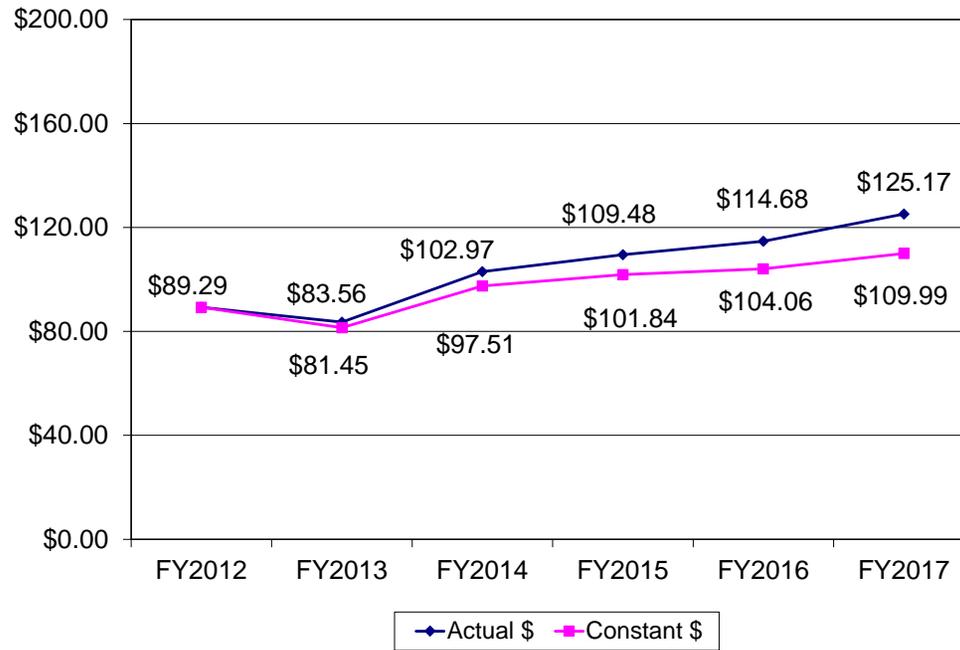
- Passenger productivity was mixed, with only minor changes in performance. Passengers per hour decreased 0.6 percent per year on average, with passengers per mile increasing 0.4 percent annually.
- Employee productivity increased an annual average of nine percent.

Exhibit 5: TDA Indicator Performance – Paratransit

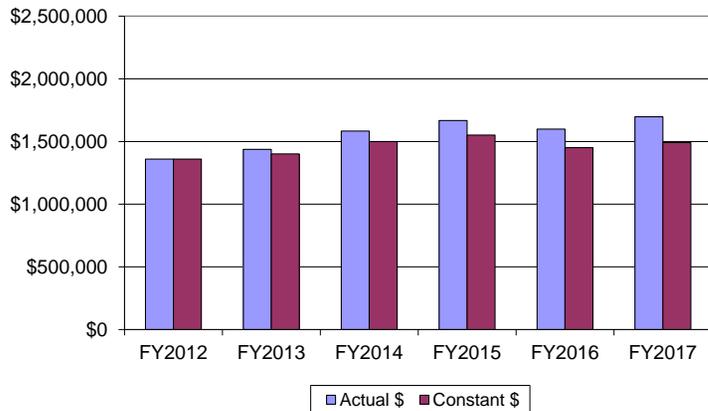
	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	Av. Ann. Chg.
Performance Indicators							
Op. Cost per Vehicle Svc. Hour (Actual \$)	\$89.29	\$83.56	\$102.97	\$109.48	\$114.68	\$125.17	- -
<i>Annual Change</i>	- -	-6.4%	23.2%	6.3%	4.7%	9.1%	7.0%
Op. Cost per Vehicle Svc. Hour (Constant \$)	\$89.29	\$81.45	\$97.51	\$101.84	\$104.06	\$109.99	- -
<i>Annual Change</i>	- -	-8.8%	19.7%	4.4%	2.2%	5.7%	4.3%
Passengers per Vehicle Service Hour	2.0	2.4	2.2	2.1	2.1	2.0	- -
<i>Annual Change</i>	- -	19.5%	-8.0%	-4.8%	-2.1%	-5.3%	-0.6%
Passengers per Vehicle Service Mile	0.18	0.19	0.17	0.16	0.17	0.18	- -
<i>Annual Change</i>	- -	7.4%	-11.6%	-8.9%	12.4%	5.2%	0.4%
Op. Cost per Passenger (Actual \$)	\$43.83	\$34.31	\$45.95	\$51.34	\$54.94	\$63.30	- -
<i>Annual Change</i>	- -	-21.7%	33.9%	11.7%	7.0%	15.2%	7.6%
Op. Cost per Passenger (Constant \$)	\$43.83	\$33.44	\$43.51	\$47.76	\$49.85	\$55.62	- -
<i>Annual Change</i>	- -	-23.7%	30.1%	9.8%	4.4%	11.6%	4.9%
Vehicle Service Hours per FTE	640	967	961	1,154	1,182	983	- -
<i>Annual Change</i>	- -	51.1%	-0.6%	20.0%	2.4%	-16.8%	9.0%
Input Data							
Operating Cost (Actual \$)	\$1,359,650	\$1,437,722	\$1,583,647	\$1,667,253	\$1,599,198	\$1,697,513	- -
<i>Annual Change</i>	- -	5.7%	10.1%	5.3%	-4.1%	6.1%	4.5%
Operating Cost (Constant \$)	\$1,359,650	\$1,401,288	\$1,499,666	\$1,550,933	\$1,451,178	\$1,491,663	- -
<i>Annual Change</i>	- -	3.1%	7.0%	3.4%	-6.4%	2.8%	1.9%
Vehicle Service Hours	15,227	17,205	15,380	15,229	13,945	13,562	- -
<i>Annual Change</i>	- -	13.0%	-10.6%	-1.0%	-8.4%	-2.7%	-2.3%
Vehicle Service Miles	172,366	216,832	201,750	208,602	166,387	145,727	- -
<i>Annual Change</i>	- -	25.8%	-7.0%	3.4%	-20.2%	-12.4%	-3.3%
Unlinked Passengers	31,021	41,903	34,467	32,476	29,110	26,817	- -
<i>Annual Change</i>	- -	35.1%	-17.7%	-5.8%	-10.4%	-7.9%	-2.9%
Employee Full-Time Equivalents	23.8	17.8	16.0	13.2	11.8	13.8	- -
<i>Annual Change</i>	- -	-25.2%	-10.1%	-17.5%	-10.6%	16.9%	-10.3%
Bay Area CPI - Annual Change	- -	2.6%	2.9%	1.9%	2.5%	3.3%	- -
- Cumulative Change	- -	2.6%	5.6%	7.5%	10.2%	13.8%	2.6%

Sources: FY2012 through FY2014 - Prior Performance Audit Report
FY2015 through FY2017 - NTD Reports; FY2017 Revision 3, except FTEs provided by SolTrans contractor
CPI Data - U.S. Department of Labor, Bureau of Labor Statistics

Exhibit 5.1: Operating Cost per Vehicle Service Hour – Paratransit



Operating Cost



Vehicle Service Hours

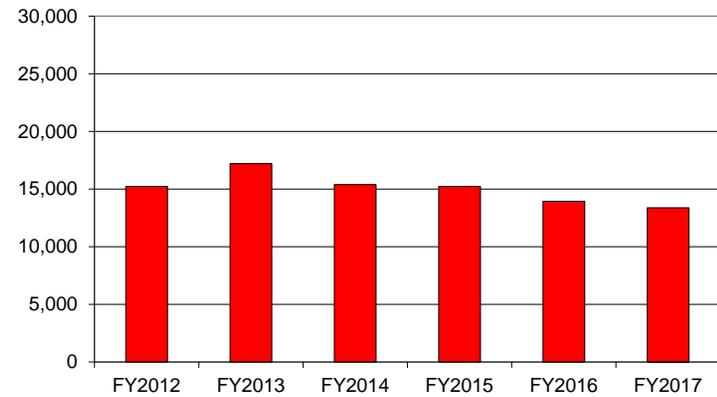
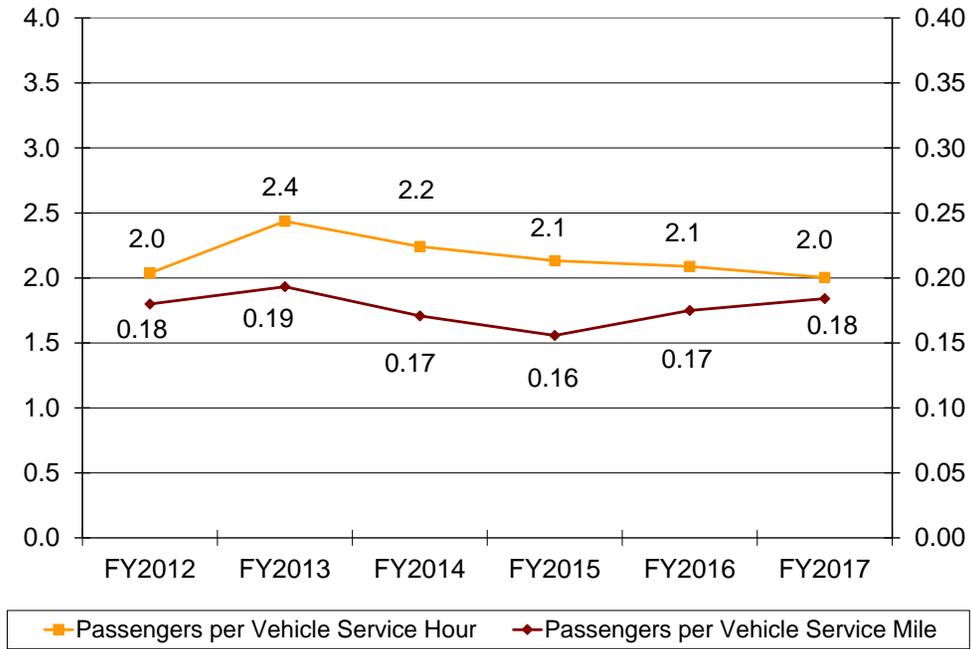
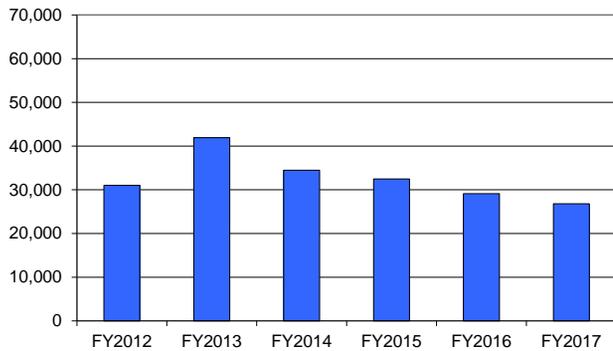


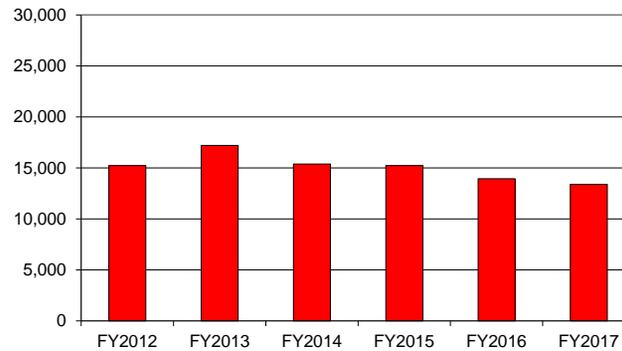
Exhibit 5.2: Passengers per Hour and per Mile – Paratransit



Unlinked Passengers



Vehicle Service Hours



Vehicle Service Miles

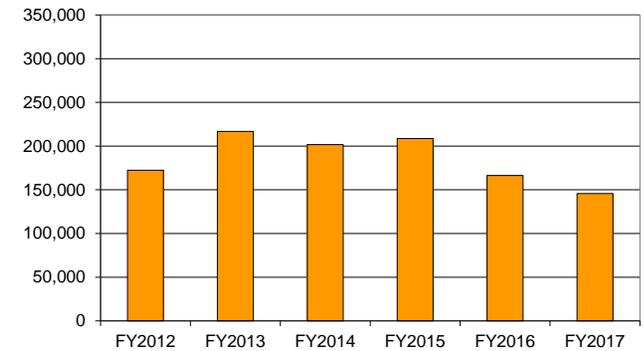
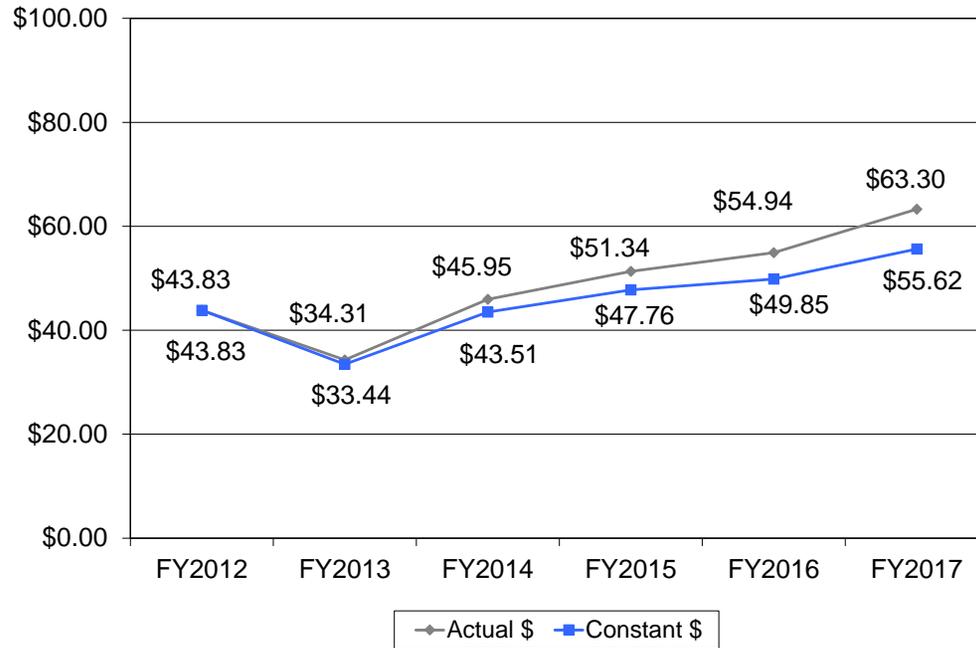
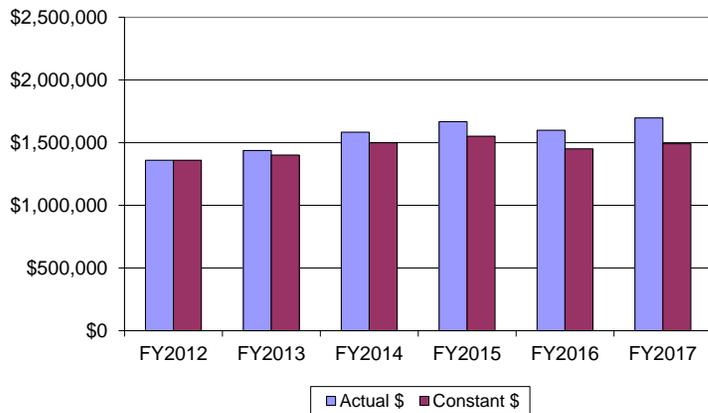


Exhibit 5.3: Operating Cost per Passenger – Paratransit



Operating Cost



Unlinked Passengers

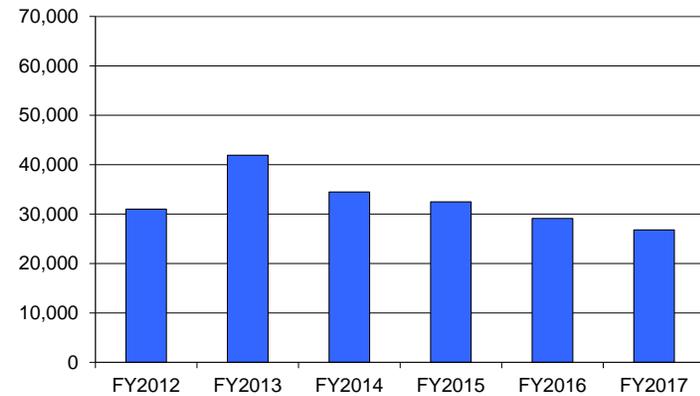
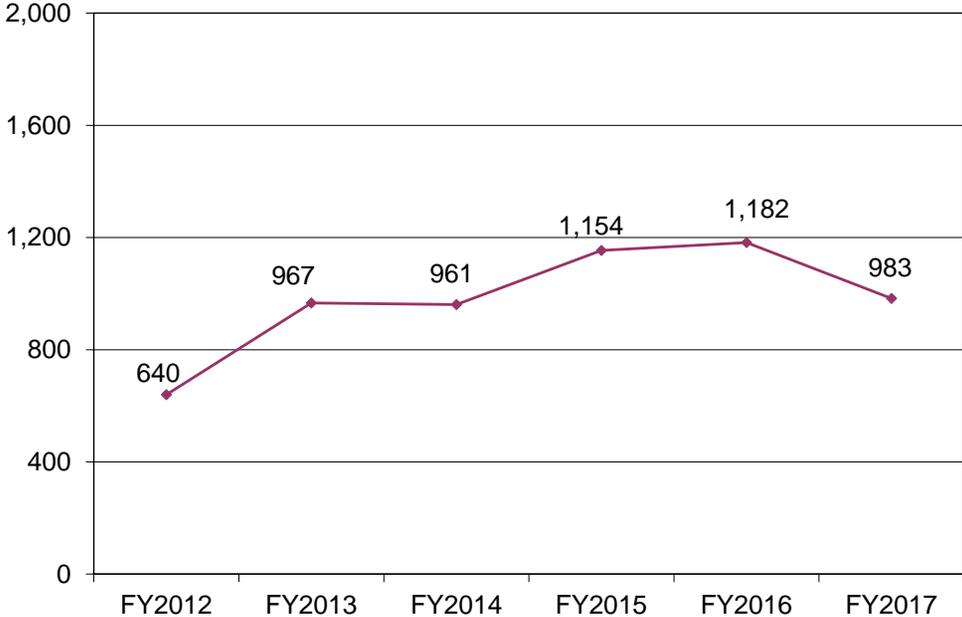
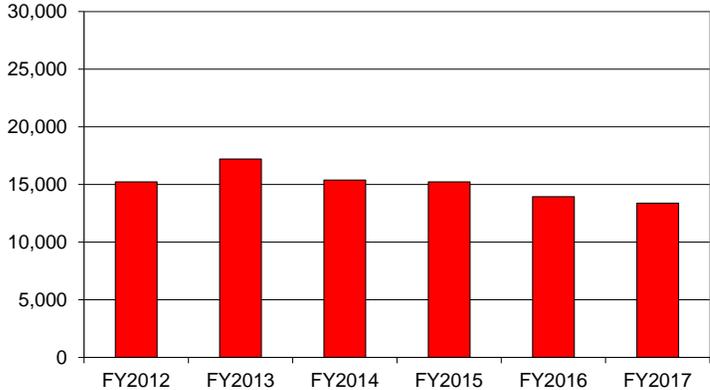


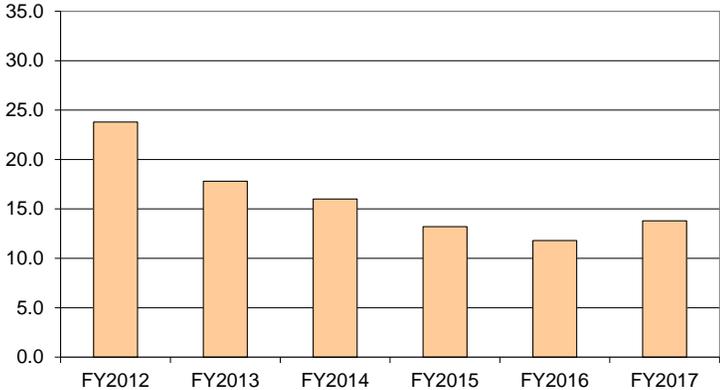
Exhibit 5.4: Vehicle Service Hours per FTE – Paratransit



Vehicle Service Hours



Full-time Equivalent



Paratransit Component Costs

The year-to-year changes in selected operating cost categories are presented in Exhibit 5.5, along with the concurrent changes in vehicle service hours. The portions of the cost per vehicle service hour that can be attributed to each included cost component are shown in Exhibit 5.6.

- In-house labor costs increased an annual average of 22.4 percent over the six-year period. As with the fixed-route side, this is attributed to an increase in staffing during the current audit period.
- Fringe benefits costs increased an annual average of 64 percent. Similar to the fixed-route mode, this is due to large cost increases related to start-up costs for the SolTrans system in FY2014 carrying over to the current audit period. Overall, fringe benefits comprise less than three percent of total operating costs.
- Purchased transportation costs increased by 2.5 percent per year on average. Purchased transportation costs, which comprise over 70 percent of total operating costs, fluctuated over the review period, with small decreases in FY2013 and FY2016 interspersed with modest cost increases in the remaining years.
- Costs for fuels/lubricants decreased about six percent annually, while materials/supplies costs increased about 19 percent per year. As with the fixed-route side, SolTrans did not report costs for materials/supplies in FY2013 and FY2014, but began reporting again in FY2015 due to a change in NTD reporting requirements.
- There were increases in the casualty/liability and other expenses categories, but those component cost categories comprise less than five percent of total operating costs.

* * * * *

The following is a brief summary of the paratransit component operating costs trend highlights between FY2012 and FY2017:

- Purchased transportation costs represented the largest portion of total paratransit operating costs, at about 75 percent throughout the review period. Purchased transportation costs increased by 2.5 percent per year on average.
- Significant annual average increases were seen in the labor (22.4 percent), fringe benefits (64 percent), and services (25.2 percent) categories, however, these three categories combined account for less than 20 percent of the total paratransit costs.
- Fuel/lubricants costs decreased about six percent annually, while their share of total costs decreased from about 12 percent to less than seven percent. Materials/supplies costs increased about 19 percent annually during the review period, but the share of materials/supplies is less than one percent of total operating costs.
- Increases were shown in the casualty/liability and other expenses categories, with both areas comprising less than five percent of total expenses.

Exhibit 5.5: Component Costs Trends – Paratransit

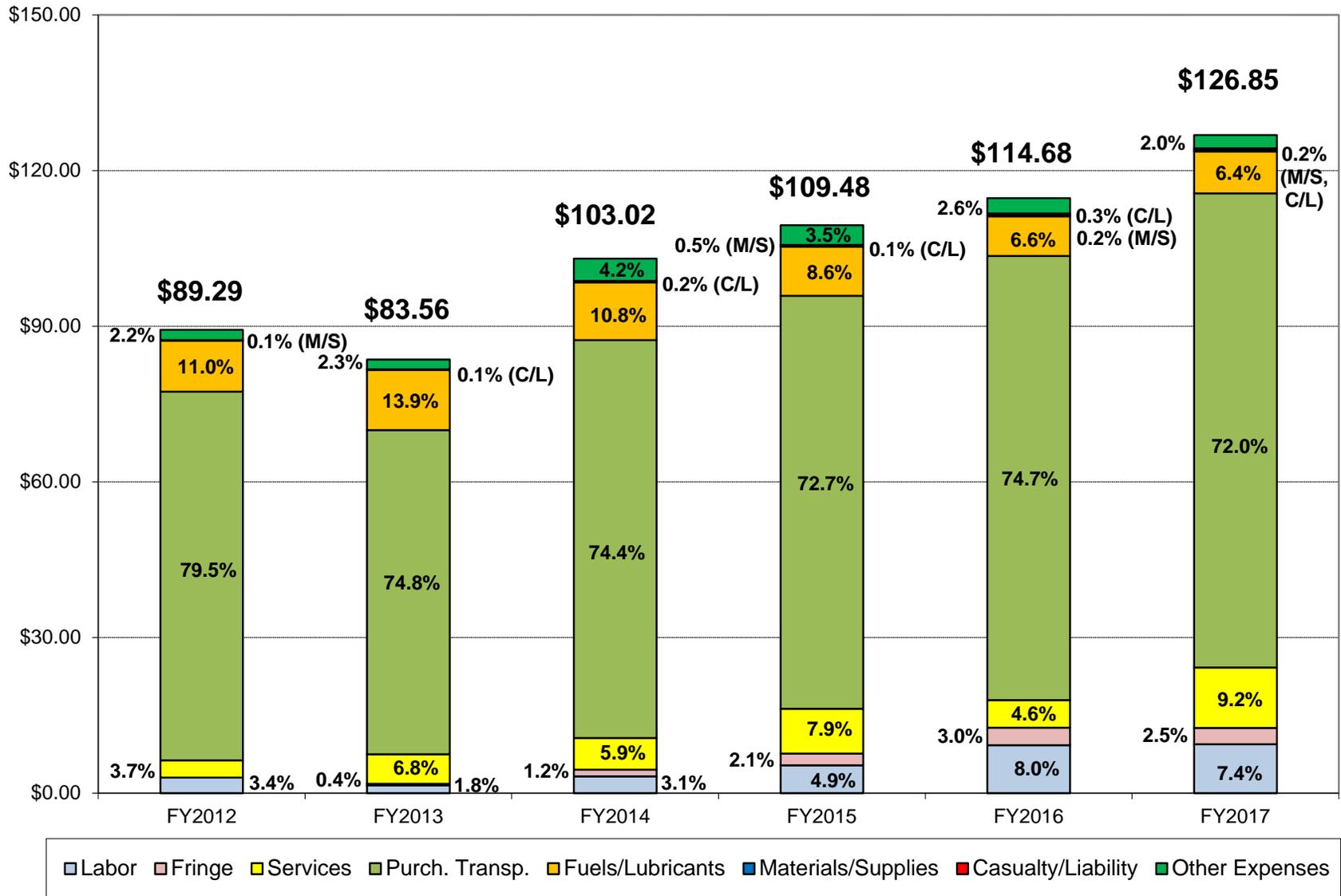
	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	Av. Ann. Chg.
COST CATEGORIES							
Labor - (Salaries, Wages)	\$45,825	\$25,519	\$49,761	\$81,500	\$128,732	\$126,144	--
<i>Annual Change</i>	--	-44.3%	95.0%	63.8%	58.0%	-2.0%	22.4%
Fringe Benefits (a)	\$0	\$5,783	\$19,583	\$34,740	\$47,450	\$41,823	--
<i>Annual Change</i>	--	--	238.6%	77.4%	36.6%	-11.9%	64.0%
Services	\$50,729	\$97,779	\$94,068	\$131,260	\$74,160	\$155,962	--
<i>Annual Change</i>	--	92.7%	-3.8%	39.5%	-43.5%	110.3%	25.2%
Purchased Transportation	\$1,081,456	\$1,075,200	\$1,178,605	\$1,212,523	\$1,193,884	\$1,223,011	--
<i>Annual Change</i>	--	-0.6%	9.6%	2.9%	-1.5%	2.4%	2.5%
Fuels/Lubricants	\$149,656	\$199,756	\$171,661	\$144,003	\$106,122	\$108,483	--
<i>Annual Change</i>	--	33.5%	-14.1%	-16.1%	-26.3%	2.2%	-6.2%
Materials/Supplies	\$1,685	\$0	\$0	\$2,806	\$3,394	\$4,039	--
<i>Annual Change</i>	--	-100.0%	--	--	21.0%	19.0%	19.1%
Casualty/Liability (a)	\$0	\$1,161	\$3,799	\$2,286	\$4,103	\$3,614	--
<i>Annual Change</i>	--	--	227.2%	-39.8%	79.5%	-11.9%	32.8%
Other Expenses (b)	\$30,299	\$32,524	\$66,170	\$58,135	\$41,353	\$34,437	--
<i>Annual Change</i>	--	7.3%	103.4%	-12.1%	-28.9%	-16.7%	2.6%
Total	\$1,359,650	\$1,437,722	\$1,583,647	\$1,667,253	\$1,599,198	\$1,697,513	--
<i>Annual Change</i>	--	5.7%	10.1%	5.3%	-4.1%	6.1%	4.5%
OPERATING STATISTICS							
Vehicle Service Hours	15,227	17,205	15,372	15,229	13,945	13,382	--
<i>Annual Change</i>	--	13.0%	-10.7%	-0.9%	-8.4%	-4.0%	-2.6%

Sources: FY2012 through FY2014 - Prior Performance Audit Report; FY2015 through FY2017 - NTD Reports; FY2017 Revision 3

(a) Average annual changes calculated from first year costs were reported

(b) Includes utilities and miscellaneous expenses

Exhibit 5.6: Distribution of Component Costs – Paratransit
Operating Cost per Vehicle Service Hour



IV. COMPLIANCE WITH PUC REQUIREMENTS

An assessment of SolTrans' compliance with selected sections of the state Public Utilities Code (PUC) has been performed. The compliance areas included in this review are those that MTC has identified for inclusion in the triennial performance audit. Other statutory and regulatory compliance requirements are reviewed by MTC in conjunction with its annual review of SolTrans' TDA-STA claim application.

The results from this review are detailed by individual requirement in Exhibit 6. SolTrans is in compliance with each of the seven sections of the state PUC that were reviewed as part of this performance audit. These sections included requirements concerning CHP terminal safety inspections, labor contracts, reduced fares, Welfare-to-Work, revenue sharing, and evaluating passenger needs.

Exhibit 6: Compliance with State PUC Requirements

Code Reference	Operator Compliance Requirements	Compliance Finding	Verification Information
PUC99251	<u>CHP Certification</u> - The CHP has, within the 13 months prior to each TDA claim submitted by an operator, certified the operator's compliance with Vehicle Code Section 1808 following a CHP inspection of the operator's terminal	In Compliance	Satisfactory Inspections: <ul style="list-style-type: none"> • 2015: 11/18/15 • 2016: 11/28/16 • 2017: 11/15/17
PUC99264	<u>Operator-to-Vehicle Staffing</u> - The operator does not routinely staff with two or more persons public transportation vehicles designed to be operated by one person	In Compliance	<ul style="list-style-type: none"> • No provision for excess staffing in Transit Operations Service Contract with National Express Corp., effective 07/01/13 through 06/30/18.
PUC99314.5 (e)(1)(2)	<u>Part Time Drivers and Contracting</u> - Operators receiving STA funds are not precluded by contract from employing part-time drivers or from contracting with common carriers	In Compliance	<ul style="list-style-type: none"> • <u>Part Time Drivers</u> – Provisions for Part-Time Employees included in Staffing Plan in Transit Operations Service Contract with National Express Corp., effective 07/01/13 through 06/30/18. • <u>Contracting</u> - SolTrans contracts with National Express Corp. to provide its transit services.
PUC99155	<u>Reduced Fare Eligibility</u> - For any operator who received TDA Article 4 funds, if the operator offers reduced fares to senior citizens and disabled persons, applicant will honor the federal Medicare identification card, the California Department of Motor Vehicles disability ID card, the Regional Transit Connection Discount Card, or any other current identification card issued by another transit operator that is valid for the type of transportation service or discount requested; and if the operator offers reduced fares to senior citizens, it also offers the same reduced fare to disabled patrons	In Compliance	Fare information in public information materials: <ul style="list-style-type: none"> • Bus route timetables • SolTrans System Map • SolTrans website: http://www.soltransride.com/fares

Code Reference	Operator Compliance Requirements	Compliance Finding	Verification Information
PUC99155.1 (a)(1)(2)	<u>Welfare to Work Coordination</u> - Operators must coordinate with county welfare departments in order to ensure that transportation monies available for purposes of assisting recipients of aid are expended efficiently for the benefit of that population; if a recipient of CalWORKs program funds by the county, the operator shall give priority to the enhancement of public transportation services for welfare-to-work purposes and to the enhancement of transportation alternatives, such as, but not limited to, subsidies or vouchers, van pools, and contract paratransit operations, in order to promote welfare-to-work purposes	In Compliance	<ul style="list-style-type: none"> • SolTrans participates in the regional MTC Coordinated Human Service Transportation plan. SolTrans services are included in the plan's inventory. • SolTrans was a stakeholder in the Solano County Mobility Management Plan. • SolTrans is a member of the Solano Express Intercity Transit Consortium and Solano Senior and People with Disabilities Transportation Advisory Committee.
PUC99314.7, Govt Code 66516, MTC Res. Nos. 3837, 4073	<u>Joint Revenue Sharing Agreement</u> - The operator has current joint fare revenue sharing agreements in place with transit operators in the MTC region with which its service connects, and submitted copies of agreements to MTC	In Compliance	<ul style="list-style-type: none"> • Amended and Restated Clipper MOU, 02/19/16. • Other valid transfer/revenue sharing agreements with connecting operators: City of Fairfield, City of Vacaville, NVRTA, SFMTA, and WCCTA
PUC99246(d)	<u>Process for Evaluation of Passenger Needs</u> - The operator has an established process in place for evaluating the needs and types of passengers being served	In Compliance	<ul style="list-style-type: none"> • SolTrans Public Involvement Policy, 09/21/17; Title VI Policy 09/21/17. • SolTrans Technical Advisory Committee (TAC) quarterly meetings. • SolTrans Public Advisory Committee (PAC) quarterly meetings. • Short Range Transit Plan (SRTP) 2016-2025 includes evaluations of existing service conditions, service area characteristics, system trends and performance, operating and capital budgets and future initiatives.

V. STATUS OF PRIOR AUDIT RECOMMENDATIONS

SolTrans' prior performance audit was completed in May 2015. Generally, MTC has used the audit recommendations as the basis for developing the Productivity Improvement Program (PIP) projects the operator is required to complete. MTC tracks PIP project implementation as part of its annual review of the operator's TDA-STA claim application. This section provides an assessment of actions taken by TDA-STA recipients toward implementing the recommendations advanced in the prior audit. This assessment provides continuity between the current and prior audits, which allows MTC to fulfill its obligations where the recommendations were advanced as PIP projects.

This review addresses SolTrans' responses to the recommendations made in the prior performance audit, and whether SolTrans made reasonable progress toward their implementation. However, there were no recommendations made in SolTrans' prior audit.

VI. FUNCTIONAL PERFORMANCE INDICATOR TRENDS

To further assess SolTrans' performance over the past three years, a detailed set of functional area performance indicators was defined. This assessment consists of a three-year trend analysis of the functions in each of the following areas:

- Management, Administration and Marketing
- Service Planning
- Operations
- Maintenance
- Safety

The indicators selected for this analysis were primarily those that were tracked regularly by SolTrans or for which input data were maintained by SolTrans on an on-going basis, such as performance reports, contractor reports, annual financial reports and NTD reports. As such, there may be some overlap with the TDA indicators examined earlier in the audit process, but most indicators will be different. Some indicators were selected from the California Department of Transportation's Performance Audit Guidebook for Transit Operators and Regional Transportation Planning Entities as being appropriate for this evaluation. The input statistics for the indicators, along with their sources, are contained in Appendix A at the end of this report.

The trends in performance are presented over the three-year audit period to give an indication of which direction performance is moving for these indicators. The remainder of this section presents the findings from this review. The discussion presents

the highlights of performance by mode (Systemwide, Bus Service and Paratransit), each followed by an exhibit illustrating the indicators by function as applicable.

Systemwide

For the purposes of this review, SolTrans' functional indicators relating to Management, Administration and Marketing have been included generally on a systemwide basis. Audit period performance is discussed below and presented in Exhibit 7.

- Administrative costs increased slightly from 47 percent to 48 percent of total operating costs between FY2015 and FY2017.
- Administrative costs rose from \$54.23 per vehicle service hour in the first year to \$58.70 in FY2017 (8.2 percent).
- The portion of administrative costs attributed to marketing activities remained fairly steady overall between 3.8 percent and 4.1 percent.
- Marketing expenditures rose from \$0.14 to \$0.18 per passenger trip over the audit period.
- The systemwide farebox recovery ratio declined from about 32 percent in FY2015 to 26.1 percent in FY2017.

* * * * *

The following is a brief summary of the systemwide functional trend highlights between FY2015 and FY2017:

- Administrative costs remained steady at about 47 percent of total operating costs, and also increased by about eight percent to \$58.70 per vehicle service hour in FY2017.
- Marketing costs also remained mostly unchanged at 3.8 percent of total administrative costs, but increased slightly from \$0.14 to \$0.18 per passenger trip during the audit period.
- The systemwide farebox recovery ratio declined from about 32 percent to 26 percent by FY2017.

Exhibit 7: Functional Performance Trends - Systemwide

FUNCTION/Indicator	Actual Performance		
	FY2014	FY2015	FY2016
MANAGEMENT, ADMINISTRATION & MARKETING			
Administrative Cost/Total Operating Cost	46.9%	47.4%	48.0%
<i>Annual Percent Change</i>	--	1.0%	1.2%
<i>Three Year Percent Change</i>	--	--	2.2%
Administrative Cost/Vehicle Service Hour	\$54.23	\$51.79	\$58.70
<i>Annual Percent Change</i>	--	-4.5%	13.3%
<i>Three Year Percent Change</i>	--	--	8.2%
Marketing Cost/Total Administrative Cost	3.8%	4.1%	3.8%
<i>Annual Percent Change</i>	--	8.2%	-6.1%
<i>Three Year Percent Change</i>	--	--	1.6%
Marketing Cost/Unlinked Passenger Trip	\$0.14	\$0.15	\$0.18
<i>Annual Percent Change</i>	--	8.5%	15.2%
<i>Three Year Percent Change</i>	--	--	24.9%
Farebox Recovery Ratio (Farebox Rev./Oper. Cost)	32.3%	31.1%	26.1%
<i>Annual Percent Change</i>	--	-3.8%	-16.0%
<i>Three Year Percent Change</i>	--	--	-19.1%

Bus Service

SolTrans' bus service functional area trends represent areas of cost efficiency, safety, productivity and service reliability. Audit period performance is discussed below and presented in Exhibit 8.

- Service Planning
 - Operating costs per passenger mile increased from \$0.92 in the first two years to \$1.07 in FY2017 (15 percent).
 - The bus service farebox recovery ratio declined overall from 36.8 percent in the first year to 29.4 percent in FY2016. At the same time, the TDA recovery ratio decreased about the same, from 37.1 percent to 29.4 percent. For this calculation, farebox revenue is augmented with local support and operating costs reflect various allowable exclusions.
 - About 95 percent of all vehicle miles traveled and all vehicle hours were in service in all three years.
 - Passengers carried per service mile decreased by nine percent, while passengers per service hour decreased by about 15 percent over the three years.

- Operations
 - Vehicle operations costs comprised 40 percent of total operating costs in the first year, but decreased steadily to 36.8 percent in FY2017.
 - Vehicle operations costs per service hour decreased as well, from \$46.59 in FY2015 to \$44.85 in FY2017.
 - Data for schedule adherence was available for FY2015 and FY2016 only. On-time performance decreased from about 98 percent to 90 percent during that time.

- The rate of complaints per 100,000 passenger trips increased from 16.5 to 27.5 during the audit period.
- Data for missed trips was not available for the audit period.
- Maintenance
 - Total maintenance costs comprised increased from about 13 percent of total operating costs in FY2015 to 15.2 percent by FY2017.
 - Vehicle maintenance costs per service mile increased about seven percent overall during the audit period, from \$0.70 to \$0.75.
 - The vehicle spare ratio remained unchanged at 26.2 percent for all three years.
 - The mean distance between major failures and between all mechanical failures improved significantly in FY2017 from the prior two years, over 500 percent and 78 percent, respectively.
- Safety
 - The rate of preventable accidents per 100,000 miles increased more than 80 percent over the period, from 0.87 in FY2015 to 1.6 in FY2017.

* * * * *

The following is a brief summary of the bus service functional trend highlights between FY2015 and FY2017:

- Service Planning results showed the operating cost per passenger mile increasing by 15.6 percent, farebox recovery declining from about 36 percent to 29 percent, and the TDA recovery ratio (reflecting local support and operating cost exclusions) showing a similar decrease, from 37 to 29

percent. Consistently about 95 percent of vehicle miles and hours were in service, and passenger productivity decreased over the three-year period.

- Operations results showed vehicle operations costs per service hour decreasing by about four percent, and reduced compared to total costs as well, by about eight percent. On time percentage decreased between FY2015 and FY2016; data for FY2017 was unavailable. The number of complaints per 100,000 trips increased from 16.5 to 27.5 over the three years. Data for missed trips was unavailable for the audit period.
- Maintenance results showed maintenance costs rose from about 13 percent to 15 percent of total costs, and vehicle maintenance costs per service mile up by 7.4 percent. The vehicle spare ratio remained at 26.2 percent all three years, and noticeable improvement in the mechanical failure rates, particularly in FY2017.
- Safety results, measured as the rate of preventable accidents per 100,000 miles, showed a more than 80 percent increase in the rate of preventable accidents, but was still a relatively low number, from 0.87 in FY2015 to 1.6 in FY2017.

Exhibit 8: Functional Performance Trends – Bus Service

FUNCTION/Indicator	Actual Performance		
	FY2015	FY2016	FY2017
SERVICE PLANNING			
Total Operating Cost/Passenger Mile	\$0.92	\$0.92	\$1.07
<i>Annual Percent Change</i>	--	0.2%	15.3%
<i>Three Year Percent Change</i>	--	--	15.6%
Farebox Recovery Ratio (Farebox Rev./Oper. Cost)	36.8%	35.2%	29.4%
<i>Annual Percent Change</i>	--	-4.3%	-16.7%
<i>Three Year Percent Change</i>	--	--	-20.3%
TDA Recovery Ratio (a)	37.1%	35.5%	29.4%
<i>Annual Percent Change</i>	--	-4.4%	-17.0%
<i>Three Year Percent Change</i>	--	--	-20.6%
Vehicle Service Miles/Total Miles	94.5%	95.8%	94.7%
<i>Annual Percent Change</i>	--	1.3%	-1.1%
<i>Three Year Percent Change</i>	--	--	0.2%
Vehicle Service Hours/Total Hours	94.8%	95.1%	94.4%
<i>Annual Percent Change</i>	--	0.4%	-0.8%
<i>Three Year Percent Change</i>	--	--	-0.4%
Passengers/Vehicle Service Mile	0.89	0.80	0.81
<i>Annual Percent Change</i>	--	-10.2%	1.2%
<i>Three Year Percent Change</i>	--	--	-9.1%
Passengers/Vehicle Service Hour	16.7	15.5	14.3
<i>Annual Percent Change</i>	--	-7.1%	-8.0%
<i>Three Year Percent Change</i>	--	--	-14.5%
OPERATIONS			
Vehicle Operations Cost/Total Operating Cost	40.0%	38.2%	36.8%
<i>Annual Percent Change</i>	--	-4.5%	-3.5%
<i>Three Year Percent Change</i>	--	--	-7.8%
Vehicle Operations Cost/Vehicle Service Hour	\$46.59	\$41.38	\$44.85
<i>Annual Percent Change</i>	--	-11.2%	8.4%
<i>Three Year Percent Change</i>	--	--	-3.7%
Trips On-Time Percentage	98.4%	89.8%	(b)
<i>Annual Percent Change</i>	--	-8.7%	--
<i>Three Year Percent Change</i>	--	--	--
Complaints/100,000 Passenger Trips	16.5	40.0	27.5
<i>Annual Percent Change</i>	--	143.0%	-31.2%
<i>Three Year Percent Change</i>	--	--	67.3%
Missed Trips/Total Trips	(b)	(b)	(b)
<i>Annual Percent Change</i>	--	--	--
<i>Three Year Percent Change</i>	--	--	--

FUNCTION/Indicator	Actual Performance		
	FY2015	FY2016	FY2017
MAINTENANCE			
Vehicle + Non-Veh. Maint. Cost/Total Operating Cost	12.8%	14.2%	15.2%
<i>Annual Percent Change</i>	--	11.3%	6.8%
<i>Three Year Percent Change</i>	--	--	18.9%
Vehicle Maintenance Cost/Vehicle Service Mile	\$0.70	\$0.64	\$0.75
<i>Annual Percent Change</i>	--	-8.7%	17.6%
<i>Three Year Percent Change</i>	--	--	7.4%
Spare Vehicles/Total Vehicles	26.2%	26.2%	26.2%
<i>Annual Percent Change</i>	--	0.0%	0.0%
<i>Three Year Percent Change</i>	--	--	0.0%
Mean Distance between Major Failures (Miles)	10,351	9,239	62,555
<i>Annual Percent Change</i>	--	-10.7%	577.1%
<i>Three Year Percent Change</i>	--	--	504.3%
Mean Distance between All Failures (Miles)	6,860	7,412	12,257
<i>Annual Percent Change</i>	--	8.0%	65.4%
<i>Three Year Percent Change</i>	--	--	78.7%
SAFETY			
Preventable Accidents/100,000 Vehicle Miles	0.87	1.11	1.60
<i>Annual Percent Change</i>	--	27.6%	44.3%
<i>Three Year Percent Change</i>	--	--	84.2%

(a) Farebox Revenue plus Local Support/Operating Cost less TDA Allowable Exclusions

(b) Not available

Paratransit

SolTrans' paratransit functional area trends represent mostly similar areas to the bus service. Audit period performance is discussed below and presented in Exhibit 9.

- Service Planning
 - Operating costs per passenger mile increased from \$7.79 in FY2015 to \$11.82 in FY2017, more than 50 percent overall, reflecting the decrease in passenger miles during this audit period.
 - The farebox recovery ratio declined from 4.7 percent in the first year to 3.5 percent in FY2017. Since SolTrans did not identify and local support, or operating cost exclusions, the TDA recovery ratio declined the same amount overall.
 - Vehicle miles traveled in service decreased from 87 percent to 85 percent from FY2015 to FY2017. About 92 percent of all vehicle hours were in service in all three years.
 - Passengers carried per service mile increased slightly, while passengers carried per service hour decreased slightly.

- Operations
 - Vehicle operations costs decreased slightly from about 41 percent to 38 percent of total operating costs during the audit period.
 - Vehicle operations costs per service hour increased overall from \$45.28 to \$48.13 (6.3 percent).
 - Schedule adherence was almost unchanged during the audit period from 80.8 percent in FY2015 to 81 percent in FY2017.

- Complaints per 1,000 passenger trips increased slightly from 0.8 in FY2015 to 0.9 in FY2017. The number of missed trips was unavailable for the first two years. There was one missed trip reported in FY2017.
- The rate of ADA trip denials was less than one percent over the entire audit period. There is some doubt as to the accuracy of the ADA trip denial data, as SolTrans staff indicated that their reservationists may have combined ADA trip denials with non-ADA trip denials during the audit period.
- The trip cancellation rate decreased from 18 percent of total ADA trips in FY2015 to 14.3 percent by FY2017, but the late cancellation rate increased from 0.8 percent to 5.1 percent over the audit period.
- The passenger no-show rate decreased overall, from 5.6 percent to two percent of total ADA trips.
- Maintenance
 - Total maintenance costs increased slightly, but remained at about 14 percent of total operating costs throughout the period.
 - Vehicle maintenance costs per service mile increased overall from \$0.99 to \$1.53 (54.6 percent), again reflecting the decrease in service miles during this audit period.
 - The vehicle spare ratio remained steady at 18.2 percent for all three years.
 - As with the bus service, the mean distance between major failures improved significantly, especially in FY2017. Mean distance between all failures also showed a very positive trend.
- Safety
 - The rate of preventable accidents per 100,000 miles increased almost 40 percent over the audit period, from 1.7 in FY2015 to 2.3 in FY2017.

* * * * *

The following is a brief summary of the paratransit functional trend highlights between FY2015 and FY2017:

- Service Planning results showed operating cost per passenger mile increasing by 51.6 percent overall, reflecting decreases in both service miles and ridership. The farebox recovery ratio decreased from 4.7 to 3.5 percent, with the TDA recovery ratio (reflecting local support and operating cost exclusions) showing the same change. Consistently, 85 percent or more vehicle miles and 92 percent of vehicle hours were in service, and passenger productivity was relatively steady.
- Operations results showed a small increase in vehicle operations costs per hour, and a small decrease compared to total costs. Schedule adherence remained steady over the audit period at about 81 percent. The rate of complaints increased slightly between FY2015 and FY2017. One missed trip was recorded in FY2017, the only year data was available. ADA trip denials averaged less than one percent of total ADA trips, although it is likely that the ADA denial number is inaccurate due to flawed counting of ADA and non-ADA denials during the audit period. The trip cancellation rate improved, as did the number of no-shows, but the percentage of late cancellations increased per total ADA trips.
- Maintenance results showed total maintenance costs remaining around 14 percent of total costs, while vehicle maintenance costs per service mile increased overall from \$0.99 to \$1.53. The spare ratio remained constant at 18.2 percent, and there was significant improvement in the mechanical failure rates, especially in FY2017.
- Safety results showed a 40 percent increase in the rate of preventable accidents per 100,000 miles, from 1.7 to 2.3 over the audit period.

Exhibit 9: Functional Performance Trends – Paratransit

FUNCTION/Indicator	Actual Performance		
	FY2015	FY2016	FY2017
SERVICE PLANNING			
Total Operating Cost/Passenger Mile	\$7.79	\$9.01	\$11.82
<i>Annual Percent Change</i>	--	15.6%	31.2%
<i>Three Year Percent Change</i>	--	--	51.6%
Farebox Recovery Ratio (Farebox Rev./Oper. Cost)	4.7%	3.4%	3.5%
<i>Annual Percent Change</i>	--	-29.0%	4.1%
<i>Three Year Percent Change</i>	--	--	-26.1%
TDA Recovery Ratio (a)	4.7%	3.4%	3.5%
<i>Annual Percent Change</i>	--	-29.0%	4.1%
<i>Three Year Percent Change</i>	--	--	-26.1%
Vehicle Service Miles/Total Miles	87.2%	86.6%	85.2%
<i>Annual Percent Change</i>	--	-0.7%	-1.7%
<i>Three Year Percent Change</i>	--	--	-2.3%
Vehicle Service Hours/Total Hours	91.3%	91.8%	91.9%
<i>Annual Percent Change</i>	--	0.6%	0.1%
<i>Three Year Percent Change</i>	--	--	0.7%
Passengers/Vehicle Service Mile	0.16	0.17	0.18
<i>Annual Percent Change</i>	--	12.4%	5.2%
<i>Three Year Percent Change</i>	--	--	18.2%
Passengers/Vehicle Service Hour	2.1	2.1	2.0
<i>Annual Percent Change</i>	--	-2.1%	-4.0%
<i>Three Year Percent Change</i>	--	--	-6.0%
OPERATIONS			
Vehicle Operations Cost/Total Operating Cost	41.4%	39.3%	37.9%
<i>Annual Percent Change</i>	--	-5.0%	-3.5%
<i>Three Year Percent Change</i>	--	--	-8.3%
Vehicle Operations Cost/Vehicle Service Hour	\$45.28	\$45.08	\$48.13
<i>Annual Percent Change</i>	--	-0.5%	6.8%
<i>Three Year Percent Change</i>	--	--	6.3%
Trips On-Time/Total Trips	80.8%	81.9%	81.0%
<i>Annual Percent Change</i>	--	1.4%	-1.1%
<i>Three Year Percent Change</i>	--	--	0.3%
Complaints/1,000 Passenger Trips	0.8	1.1	0.9
<i>Annual Percent Change</i>	--	42.8%	-22.0%
<i>Three Year Percent Change</i>	--	--	11.4%
Missed Trips/Total Trips	(b)	(b)	0.0
<i>Annual Percent Change</i>	--	--	--
<i>Three Year Percent Change</i>	--	--	--

FUNCTION/Indicator	Actual Performance		
	FY2015	FY2016	FY2017
OPERATIONS (continued)			
ADA Trip Denials/Total ADA Trips	0.082%	0.004%	0.017%
<i>Annual Percent Change</i>	--	-94.8%	295.9%
<i>Three Year Percent Change</i>	--	--	-79.4%
Trip Cancellations/Total ADA Trips	17.9%	16.0%	14.3%
<i>Annual Percent Change</i>	--	-10.6%	-10.2%
<i>Three Year Percent Change</i>	--	--	-19.7%
Late Trip Cancellations/Total ADA Trips	0.8%	3.1%	5.1%
<i>Annual Percent Change</i>	--	283.4%	66.4%
<i>Three Year Percent Change</i>	--	--	538.0%
No-Shows/Total ADA Trips	5.6%	3.4%	2.0%
<i>Annual Percent Change</i>	--	-40.0%	-41.6%
<i>Three Year Percent Change</i>	--	--	-64.9%
MAINTENANCE			
Vehicle + Non-Veh. Maint. Cost/Total Operating Cost	13.6%	14.5%	14.0%
<i>Annual Percent Change</i>	--	6.9%	-3.7%
<i>Three Year Percent Change</i>	--	--	2.9%
Vehicle Maintenance Cost/Vehicle Service Mile	\$0.99	\$1.31	\$1.53
<i>Annual Percent Change</i>	--	32.4%	16.8%
<i>Three Year Percent Change</i>	--	--	54.6%
Spare Vehicles/Total Vehicles	18.2%	18.2%	18.2%
<i>Annual Percent Change</i>	--	0.0%	0.0%
<i>Three Year Percent Change</i>	--	--	0.0%
Mean Dist. betw. Major Failures (Miles)	34,169	17,457	85,535
<i>Annual Percent Change</i>	--	-48.9%	390.0%
<i>Three Year Percent Change</i>	--	--	150.3%
Mean Dist. betw. All Failures (Miles)	34,169	12,802	42,768
<i>Annual Percent Change</i>	--	-62.5%	234.1%
<i>Three Year Percent Change</i>	--	--	25.2%
SAFETY			
Preventable Accidents/100,000 Vehicle Miles	1.7	1.6	2.3
<i>Annual Percent Change</i>	--	-6.6%	49.7%
<i>Three Year Percent Change</i>	--	--	39.8%

(a) - Farebox Revenue plus Local Support/Operating Cost less TDA Allowable Exclusions

(b) - Not available

VII. CONCLUSIONS AND RECOMMENDATIONS

The preceding sections presented a review of SolTrans' transit service performance during the three-year period of FY2015 through FY2017 (July 1, 2014 through June 30, 2017). They focused on TDA compliance issues including trends in TDA-mandated performance indicators and compliance with selected sections of the state Public Utilities Code (PUC). They also provided the findings from an overview of SolTrans' data collection activities to support the TDA indicators, actions taken to implement recommendations from the prior performance audit, and a review of selected key functional performance results.

Conclusions

The key findings and conclusions from the individual sections of this performance audit are summarized below:

- Data Collection – SolTrans is in compliance with the data collection and reporting requirements for all five TDA statistics. In addition, the statistics collected over the six-year review period appear to be consistent with the TDA definitions, and indicate general consistency in terms of the direction and magnitude of the year-to-year changes across the statistics.

One reporting inconsistency was noted for FY2017. Operating costs increased for both fixed-route and paratransit services, while both vehicle service hours and miles decreased the same year. The decrease in service miles was more pronounced than service hours. SolTrans responded that the switch to the new Avail system may be partly responsible, especially for service miles, as previously described reporting variances have been identified. SolTrans also noted that miles decreased due to the elimination of Route 200 into San Francisco, but hours were not impacted as much due to the addition of a demonstration route and extra runs on existing routes. As these routes were shorter distances, the impact on service hours was not

as great as the impact on service miles. Another factor in this discrepancy is that SolTrans' operating contract includes an automatic four percent annual increase in payments to the contractor.

- TDA Performance Trends

SolTrans' performance trends for the five TDA-mandated indicators were analyzed by mode. A six-year analysis period was used for all the indicators. In addition, component operating costs were analyzed.

Bus Service – The following is a brief summary of the TDA performance trend highlights over the six-year period of FY2012 through FY2017:

- There was an average annual increase in the operating cost per hour of 4.7 percent, which amounted to a 2.1 percent increase in inflation adjusted dollars.
- The cost per passenger increased on average by four percent per year, resulting in an average annual increase of 1.4 percent in constant FY2012 dollars.
- Passenger productivity showed modest improvement, with passengers per vehicle service hour increasing by 0.7 percent per year overall, and passengers per vehicle service mile increasing by 1.8 percent annually.
- Employee productivity increased an average 2.7 percent per year.

The following is a brief summary of the component operating costs trend highlights for the bus service between FY2012 and FY2017:

- Purchased transportation costs decreased slightly, an average of less than one percent per year, remaining the largest component cost area at about 65 percent of total costs. Purchased transportation costs decreased in the first three years of the review period, offsetting increases in each of the last three years, resulting in purchased transportation costs remaining relatively flat over the review period.

- Services costs increased by about 24 percent on average per year, and comprised between about 12 to 14 percent of total operating costs.
- Costs decreased over the review period for both the fuels/lubricants and casualty/liability categories. The share of fuels/lubricants costs decreased from about 14 percent to eight percent of total operating costs over the review period.
- Materials/supplies costs increased an average of about 26 percent per year, while other expenses showed a large average annual decrease due to an expense transfer in FY2012 that skewed the overall average. Both categories comprised less than four percent of total operating costs.

Paratransit – The following is a brief summary of the TDA performance trend highlights over the six-year period of FY2012 through FY2017:

- Cost efficiency showed a decrease, with an average annual increase in the operating cost per hour of seven percent. This amounted to an average annual increase of 4.3 percent in inflation adjusted dollars.
- Cost effectiveness was similar, with the operating cost per passenger increasing an average of 7.6 percent per year, or 4.9 percent annually when expressed as normalized FY2012 dollars.
- Passenger productivity was mixed, with only minor changes in performance. Passengers per hour decreased 0.6 percent per year on average, with passengers per mile increasing 0.4 percent annually.
- Employee productivity increased an annual average of nine percent.

The following is a brief summary of the component operating costs trend highlights for paratransit between FY2012 and FY2017:

- Purchased transportation costs represented the largest portion of total paratransit operating costs, at about 75 percent throughout the review period. Purchased transportation costs increased by 2.5 percent per year on average.

- Significant annual average increases were seen in the labor (22.4 percent), fringe benefits (64 percent), and services (25.2 percent) categories, however, these three categories combined account for less than 20 percent of the total paratransit costs.
- Fuel/lubricants costs decreased about six percent annually, while their share of total costs decreased from about 12 percent to less than seven percent. Materials/supplies costs increased about 19 percent annually during the review period, but the share of materials/supplies is less than one percent of total operating costs.
- Increases were shown in the casualty/liability and other expenses categories, with both areas comprising less than five percent of total expenses.
- PUC Compliance – SolTrans is in compliance with the sections of the state PUC that were reviewed as part of this performance audit. These sections included requirements concerning CHP terminal safety inspections, labor contracts, reduced fares, Welfare-to-Work, revenue sharing, and evaluation of passenger needs.
- Status of Prior Audit Recommendations – There were no recommendations made in SolTrans’ prior performance audit.
- Functional Performance Indicator Trends

To further assess SolTrans’ performance over the past three years, a detailed set of systemwide and modal functional area performance indicators was defined and reviewed.

Systemwide – The following is a brief summary of the systemwide functional trend highlights between FY2015 and FY2017:

- Administrative costs remained steady at about 47 percent of total operating costs, and also increased by about eight percent to \$58.70 per vehicle service hour in FY2017.

- Marketing costs also remained mostly unchanged at 3.8 percent of total administrative costs, but increased slightly from \$0.14 to \$0.18 per passenger trip during the audit period.
- The systemwide farebox recovery ratio declined from about 32 percent to 26 percent by FY2017.

Bus Service – The following is a brief summary of the bus service functional trend highlights between FY2015 and FY2017:

- Service Planning results showed the operating cost per passenger mile increasing by 15.6 percent, farebox recovery declining from about 36 percent to 29 percent, and the TDA recovery ratio (reflecting local support and operating cost exclusions) showing a similar decrease, from 37 to 29 percent. Consistently about 95 percent of vehicle miles and hours were in service, and passenger productivity decreased over the three-year period.
- Operations results showed vehicle operations costs per service hour decreasing by about four percent, and reduced compared to total costs as well, by about eight percent. On time percentage decreased between FY2015 and FY2016; data for FY2017 was unavailable. The number of complaints per 100,000 trips increased from 16.5 to 27.5 over the three years. Data for missed trips was unavailable for the audit period.
- Maintenance results showed maintenance costs rose from about 13 percent to 15 percent of total costs, and vehicle maintenance costs per service mile up by 7.4 percent. The vehicle spare ratio remained at 26.2 percent all three years, and noticeable improvement in the mechanical failure rates, particularly in FY2017.
- Safety results, measured as the rate of preventable accidents per 100,000 miles, showed a more than 80 percent increase in the rate of preventable accidents, but was still a relatively low number, from 0.87 in FY2015 to 1.6 in FY2017.

Paratransit – The following is a brief summary of the paratransit functional trend highlights between FY2015 and FY2017:

- Service Planning results showed operating cost per passenger mile increasing by 51.6 percent overall, reflecting decreases in both service miles and ridership. The farebox recovery ratio decreased from 4.7 to 3.5 percent, with the TDA recovery ratio (reflecting local support and operating cost exclusions) showing the same change. Consistently, 85 percent or more vehicle miles and 92 percent of vehicle hours were in service, and passenger productivity was relatively steady.
- Operations results showed a small increase in vehicle operations costs per hour, and a small decrease compared to total costs. Schedule adherence remained steady over the audit period at about 81 percent. The rate of complaints increased slightly between FY2015 and FY2017. One missed trip was recorded in FY2017, the only year data was available. ADA trip denials averaged less than one percent of total ADA trips, although it is likely that the ADA denial number is inaccurate due to flawed counting of ADA and non-ADA denials during the audit period. The trip cancellation rate improved, as did the number of no-shows, but the percentage of late cancellations increased per total ADA trips.
- Maintenance results showed total maintenance costs remaining around 14 percent of total costs, while vehicle maintenance costs per service mile increased overall from \$0.99 to \$1.53. The spare ratio remained constant at 18.2 percent, and there was significant improvement in the mechanical failure rates, especially in FY2017.
- Safety results showed a 40 percent increase in the rate of preventable accidents per 100,000 miles, from 1.7 to 2.3 over the audit period.

Recommendations

1. IMPROVE DATA COLLECTION AND REPORTING ACTIVITIES FOR QUALITY OF SERVICE STATISTICS FOR BOTH THE BUS AND PARATRANSIT SERVICES.

[Reference Section: VI. Functional Performance Indicator Trends]

There were numerous data gaps in quality of service statistics identified in the Functional Performance Indicator section of the audit for SolTrans' bus and paratransit services. As such, functional performance trend analysis could not be made in several performance measures (i.e., on-time performance and missed trips). The required data items that had incomplete data or were not reported for fixed-route included late, missed and total trips. The data items for paratransit service that were incomplete or not reported include complaints and missed trips. SolTrans staff indicated the data provided for paratransit ADA trip denials was not correctly compiled, as it is likely that the staff were combining ADA and non-ADA trips denials in the count. Data for preventable accidents was not available during the data request phase, and was provided late in the audit process.

SolTrans acknowledged that these data elements should have been tracked, or tracked correctly, but the operating contractor did not do so until the end of the current audit period. In some cases, the data was being collected, but being reported or utilized correctly by the operator and/or SolTrans. Also, the change in information systems and contractor personnel caused data gaps in FY2017. Therefore, the data identified as incomplete or missing is unavailable for this audit report. Recently, SolTrans has begun to put procedures in place for its software, and among the contractor staff, to ensure that future data collection and reporting is done correctly.

Collection and reporting of accurate, complete operating data is vital for a comprehensive analysis of performance for both bus and paratransit services. For the latter, these data are additionally important in demonstrating that the transit agency complies with the ADA regulations by ensuring no capacity constraints on complementary paratransit service. SolTrans should ensure that its contractor is collecting quality of service data for both bus and paratransit services, and develop a comprehensive set of performance indicators to include with their existing performance monitoring system.

**APPENDIX A:
INPUT STATISTICS FOR
FUNCTIONAL PERFORMANCE MEASURES**

Functional Performance Inputs - Systemwide (All Modes)

Data Item	FY2015	FY2016	FY2017	Source
Total Operating Costs	\$11,796,005	\$12,193,845	\$13,523,996	NTD F-40
Administrative Costs	\$5,537,824	\$5,783,527	\$6,489,214	NTD F-40
Vehicle Service Hours	102,124	111,679	110,549	NTD S-10 MB + DR
Marketing Costs	\$208,392	\$235,541	\$248,046	SolTrans Staff
Unlinked Passenger Trips	1,483,826	1,545,945	1,413,784	NTD S-10 MB + DR
Farebox Revenue (All Modes)	\$3,808,082	\$3,788,192	\$3,531,034	NTD F-10

Functional Performance Inputs – Bus Service

Data Item	FY2015	FY2016	FY2017	Source
Vehicle Service Miles	1,634,273	1,902,244	1,718,176	NTD S-10 MB
Total Vehicle Miles	1,728,603	1,986,328	1,814,105	NTD S-10 MB
Vehicle Service Hours	86,895	97,734	97,167	NTD S-10 MB
Total Vehicle Hours	91,680	102,717	102,926	NTD S-10 MB
Unlinked Passenger Trips	1,451,350	1,516,835	1,386,967	NTD S-10 MB
Farebox Revenue	\$3,729,261	\$3,734,535	\$3,471,762	NTD F-10
Total Operating Costs	\$10,128,752	\$10,594,647	\$11,826,483	NTD F-30 MB
Passenger Miles	10,973,705	11,454,574	11,087,714	NTD S-10 MB
Vehicle Operations Costs	\$4,048,822	\$4,043,913	\$4,358,010	NTD F-30 MB
Local Support (TDA Article 4 services only) (a)	\$29,377	\$23,578	\$10,924	SolTrans staff
TDA Oper. Cost Exclusions - PUC 99247 (b)	\$0	\$0	\$0	SolTrans staff - N/A
TDA Oper. Cost Exclusions - PUC 99268.17 (c)	\$0	\$0	\$0	SolTrans staff - N/A
Trips On-Time	98.4%	89.8%	(d)	SolTrans staff
Total Trips	(d)	(d)	(d)	
Complaints	239	607	382	Solutions + CRM Data Bases
Missed Trips	71	401	(d)	SolTrans staff
Vehicle Maintenance Costs	\$1,140,373	\$1,211,633	\$1,287,466	NTD F-30 MB
Non-Vehicle Maintenance Costs	\$152,708	\$293,881	\$507,845	NTD F-30 DR
Spare Vehicles (Total less Maximum Service)	11	11	11	NTD S-10 MB
Total Vehicles	42	42	42	NTD S-10 MB
Revenue Vehicle Mechanical System Failures - Total	252	268	148	NTD R-20
Revenue Vehicle Mechanical System Failures - Major	167	215	29	NTD R-20
Preventable Accidents	15	22	29	SolTrans staff

(a) Local Support includes the following (USOA revenue class in parentheses):

- Auxiliary transportation revenue (406)
- Taxes directly levied (408)
- Local cash grants and reimbursements (409)
- Local special fare assistance (410)
- Subsidy from other sectors of operation (440)

(b) Operating expense object classes exclusive of the following pursuant to PUC Section 99247:

- depreciation and amortization expenses
- subsidies for commuter rail services operated on railroad lines under the jurisdiction of the Federal Railroad Administration
- costs for providing charter services
- vehicle lease costs
- principal and interest payments on capital projects funded with certificates of participation

(c) Operating expense object class exclusions pursuant to PUC Section 99268.17:

- additional operating costs for federally required ADA paratransit service that exceed prior year costs (CPI adjusted)
- cost increases beyond the CPI change for: fuel; alternative fuel programs; power (including electricity); insurance premiums/liability claims payouts; state and federal mandates
- start-up costs for new services (not more than two years)

(d) Data not available

Functional Performance Inputs – Paratransit

Data Item	FY2015	FY2016	FY2017	Source
Vehicle Service Miles	208,602	166,387	145,727	NTD S-10 DR
Total Vehicle Miles	239,186	192,032	171,070	NTD S-10 DR
Vehicle Service Hours	15,229	13,945	13,382	NTD S-10 DR
Total Vehicle Hours	16,688	15,184	14,555	NTD S-10 DR
Unlinked Passenger Trips	32,476	29,110	26,817	NTD S-10 DR
Farebox Revenue	\$78,821	\$53,657	\$59,272	NTD F-10
Total Operating Costs	\$1,667,253	\$1,599,198	\$1,697,513	NTD F-30 DR
Passenger Miles	213,930	177,571	143,668	NTD S-10 DR
Vehicle Operations Costs	\$689,638	\$628,590	\$644,096	NTD F-30 DR
Local Support (TDA Article 4 services only) (a)	\$0.00	\$0.00	\$0.00	SolTrans staff - N/A
TDA Oper. Cost Exclusions - PUC 99247 (b)	\$0.00	\$0.00	\$0.00	SolTrans staff - N/A
TDA Oper. Cost Exclusions - PUC 99268.17 (c)	\$0.00	\$0.00	\$0.00	SolTrans staff - N/A
Trips On-Time	26,232	23,840	21,731	Trapeze system
Total Trips	32,476	29,110	26,817	Solutions thru Jan 2017, then Trapeze
Complaints	25	32	23	SolTrans staff
Missed Trips	(d)	(d)	1	Trapeze system
Total ADA Trips	25,708	23,520	23,763	Solutions thru Jan 2017, then Trapeze
ADA Trip Denials	21	1	4	Trapeze system
Trip Cancellations	4,589	3,755	3,407	Trapeze system
Late Trip Cancellations	205	719	1,209	Trapeze system
No Shows	1,450	796	470	Trapeze system
Vehicle Maintenance Costs	\$206,129	\$217,740	\$222,654	NTD F-30 DR
Non-Vehicle Maintenance Costs	\$20,511	\$14,561	\$14,711	NTD F-30 DR
Spare Vehicles (Total less Maximum Service)	2	2	2	NTD S-10 DR
Total Vehicles	11	11	11	NTD S-10 DR
Revenue Vehicle Mechanical System Failures - Total	7	15	4	NTD R-20
Revenue Vehicle Mechanical System Failures - Major	7	11	2	NTD R-20
Preventable Accidents	4	3	4	SolTrans staff

(a) Local Support includes the following (USOA revenue class in parentheses):

- Auxiliary transportation revenue (406)
- Taxes directly levied (408)
- Local cash grants and reimbursements (409)
- Local special fare assistance (410)
- Subsidy from other sectors of operation (440)

(b) Operating expense object classes exclusive of the following pursuant to PUC Section 99247:

- depreciation and amortization expenses
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(c) Operating expense object class exclusions pursuant to PUC Section 99268.17:

- additional operating costs for federally required ADA paratransit service that exceed prior year costs (CPI adjusted)
- cost increases beyond the CPI change for: fuel; alternative fuel programs; power (including electricity); insurance premiums/liability claims payouts; state and federal mandates
- start-up costs for new services (not more than two years)

(d) Not available